

Only 85p

DM 6.8

Commodore

HORIZONS

January 1986

Info gear with

REVS

Working with the
C128 system

Win a Little
Computer Person

Software for the
young at heart



Robcom Turbo 50
10 to Win!

**“Destined to become
one of the all time
classic games”**

SINCLAIR USER

“An absolute joy”

ZZAP! 64

**“A must for adventure
enthusiasts”**

PERSONAL COMPUTER WORLD

“Truly original”

CRASH



After reviews like that, what more can we say?

“I think the best thing to say about this game is BUY IT!”

ZZAP! 64

Frederick Forsyth's THE FOURTH PROTOCOL - THE GAME is available on cassette for the Spectrum and C64 at £12.95 and on disk for the C64 at £15.95. Published by Century Communications, a division of Century Hutchinson Ltd, Brookmount House, 62-65 Chandos Place, London WC2N 4NW



GAMES

Soft Hits

Games and bundles for dedicated game players

Video Star

Race for the record with Fishback's ROCKS



Tower of Adventure

See Mathews tries Terrenceadance and Adrian Nole

CREATIVE

Of Mice and Pens

Tempering graphics hardware for the 64 third and second for your artistic interest



Electropop 64

The latest music software from Olympus and Playbird

HARDWARE

Weird Joysticks

The oddball games controllers on the market compared

The 128 System

A closer look at the C128 and 1070 disk drive



UTILITIES

The Final Cartridge

Is H&EP's programming aid the last you'll need?

MicroProlog

The language of 80k generation computers

15

28

31

38

34

22

11

37

41

PROGRAMMING

Tidying up disks

John Cookson's utility really cleans up

49

REGULARS

Mail Merge

Have your say about the Commodore world

5

News

A Horizons Show report and all the latest releases

6

Charts

Clubs, failures and new entries

20

Minter Mania

Jeff rabbits on about the Amiga

33

Kids' Stuff

A special on software for young children featuring their favourite characters



42

Networks

A new series on CompuLink and other network systems

45

Best of '85

Vote, vote, vote! What were your '85 favourites?

46

Answer Back

Jack Cohen's technical tips page

60

WIN! Little Computer People

A pit pitain for your 64 courtesy of Activision

72

WIN! Turbo 50

These top-rated programming cartridges from Robson

74

Editorial

THE COMPUTER industry is eagerly awaiting the arrival of Commodore's Amiga personal micro. As most of you will know from the preview in *Horizons*, the Amiga uses custom chips and established 58000 processor technology to provide an unbeatable combination of speed, power, and flexibility.

Obviously, at a price of around £1000, the Amiga is going to be marketed largely as a machine for professional users. However, used solely for spreadsheet, database and word processing functions it will not be able to achieve its full potential for such tasks; graphic displays, sound generation and interfacing, in the fields of animated frame graphics, computer music, video interfacing and so on, the Amiga has such great potential that we can not yet begin to imagine its range.

Commodore desire to conquer the business market has failed miserably, with the launch of the backbone PC; it's hope that having used its commercial muscle to buy the Amiga technology, the company doesn't spoil the machine's chances with its usual approach to marketing.

Next Month

Battle Tactics

Military simulation on the 64

Mastertronic

... go into the business sector

Plus

Concert, news and features

EDITOR Christopher Jenkin PRODUCTION EDITOR Barbara Hays EDITORIAL SECRETARY Geraldine Toyle ADVERTISEMENT MANAGER Simon Langston MANAGING EDITOR Brandon Gale PUBLISHING DIRECTOR Duncan Ross TELEPHONE (ALL BRITISH 01-77 4343) TELEX 06229 SHERWOOD U.K. ADDRESS Commodore Horizons, 12-13 Little Newington Street, London WC2E 7BP U.K. ADDRESS Commodore Horizons, c/o Business Press Int'l, 281 East 42nd Street, New York, NY 10017 94 884 BRITISH U.K. 0800 for 12 issues, overseas surface including US and Canada 436-80 for 12 issues, US and Canada airtel 0 9103-95 for 12 issues.

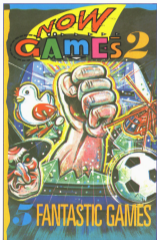
Commodore Horizons is published monthly by Soft Press Ltd. Typeset by Soft Press Ltd, 11-12 Daffodil Street, London EC2C. Printed by Commodore Horizons Ltd, Southend-on-Sea, Essex. Distributed by SMI Distribution, 16-18 Tisbury Gardens, London SW9, telephone 01-274 8611, telex 34140, ©Commodore Horizons 1987

SUBMITTING ARTICLES Commodore Horizons invites readers' contributions, either program listings or articles. Articles should be typed, double spaced with a wide margin. Where possible programs should be submitted on cassette or disk with a printout on plain white paper. Please keep a copy of your submission — do not send your only copy. Please include an a.s.a. if you wish your submission to be returned. All submissions must be your own original work.

ABC

Five Fantastic Games

Keep your eyes peeled for NOW GAMES 2. Five major software hits jostle for your attention on this packed-solid-with-fun cassette.



COMING IN A SPECIAL EDITION
 WITH
£8.95



1. WORLDLY - The Spectrum Hit
 Can you take your little helicopter to the top of the mountain without the nasty winds getting in the way? Or is your teamwork too good?



2. THE SN MUG - Simple Games
 This remarkable interactive graphic adventure allows you to explore the mysterious Gales. Can you solve the riddle of the Mountain of the South Seas?



3. CHILDREN - Palace Software
 How do the wickets challenge and control the mystery of the beautiful world in this exciting arcade software?



4. CHUCKLE EGGS 2 - A & T Software
 Help the New Wave King on the smooth running of the A & T Chuckle Egg Factory! It's not the apartment but for an where to use it in this exciting arcade game.



5. WORLD CUP - Arco Computing
 This year's football tournament, you've won the right to play the World Cup Cup! Play a team on the computer (or play it against yourself?)

Now that's what I call value

STILL AVAILABLE - NOW GAMES

Includes
 Lords of Malgrave, Jason Bonner, Shogun, Phoenix, Phantoms, Archer, Ripter, and Falcon Patrol II

£8.95

Available from all good software retailers

Also available directly from: Virgin Games/Mail Order, 2-4 Renner Yard, Portobello Road, London W1R 3DN

© Commodore International Inc.



More 64 secrets

ONE DAY I was looking around in my 64 to discover its secrets, and I found one! The secret of eliminating the dreaded "!" in input statements is rather simple. The keyboard has a device number 0, and you can open an input channel to it. Here is a little program which asks your name without using the "!" as the input option.

```

10 OPEN 1:0
20 PRINT "NAME ";
30 INPUT 1, NAMES
40 PRINT
50 CLOSE 1
60 PRINT "HELLO ";
   NAMES
70 END

```

Line 30 opens the input channel to the keyboard, line 30 gets the input; line 40 moves the cursor to the next line and line 50 closes the channel. No questionmarks will appear. You can also open a WRITE channel, but in that case it's easier to use PRINT. Another useful tip is a way to make the computer think you've pressed the RETURN key without touching it — pressing CTRL-M will have the same effect.

Michael Pieters
Miami
Belgium

IT'S BRILLIANT little routines like these that make programming so much easier. If any readers would like to see a regular page devoted to such magical tricks, let us know — and send in your favorite programming goodies.

Plus/4 plea

I HAVE recently bought a Plus/4 starter pack and I am finding it difficult to obtain any information and programmed software for this computer. I have some games, but I would like more, and some business software to test my mental agility. Could you give any help?

G. A. Wither
Morley
James

THIS IS JUST one of the many letters we've received regarding the Plus/4's software shortage. Some owners tell they have been unable to buy software into having a machine with little software support; some bought the Plus/4 when it first came out, and are satisfied with it but regret not waiting until the present price cut. Clearly there are going to be many Plus/4's "drowned" on the market if

Christmas don't buy one unless you are fully aware of the fact that it is NOT 64-compatible, there is NOT a large software base, and there will probably be little support for machines in the future. Several companies will be producing C16 programs — mainly games — which will run on the Plus/4, and of course the machine can be used with its own built-in 3+1 units of programs and Commodore disk drives and printers to create a reasonable productivity system. But, apart from the possibility of a slight improvement by demand for Plus/4 titles after Christmas, there is certainly not much future support for the machine anticipated. We will continue to review any new C16/Plus/4 products.

Handling data

HERE'S A tip for your readers. When you are entering a program with many lines of DATA, one line out of ten you make a mistake. It's very time consuming and frustrating having to go through the whole lot checking every single data entry. So try typing this line in first mode and put it in the

program if you like: PRINTPEEK(54716); POKE(54716)

The result is the line number of the data statement containing the error, after you have RUN the program to poke the data into memory.
F. Don
Seaham
Co. Durham

Monitor Moan

I THOUGHT I would offer this tip to readers who have copied the public domain program Superman from Peter Gornard's book "Using the 64", only to find that it hangs up with Jim Butterfield's name.

There are five bytes too many at the start of the program. When it is run, and the bytes are moved at the top of RAM, they are all the addresses lower than they should be, with the result that all the jumps in the program are wrong.

The solution is simple: load Supermain then, before running it, POKE(41215, Then run it, and it will work. I hope this is helpful to those who, like me, have been struggling with this program.
M. P. Wilson
Sussex



Horizons show packs them in!

THE FIRST ever Commodore Horizons Show, at the Rock West Center, Sheppard's Bush on 26th-27th October, was a great success despite problems with the venue.

Moved from the Hammer-smith Memorial due to contractual difficulties, the Show nevertheless drew over 8000 visitors over the two days. With 18 exhibitors, five of whom sold all their stock by midday on Sunday, the Show was packed with new products and bargains.

Sean Phillips, MD of show organisers Fulltimeframe, commented "Saturday morning was Hell on wheels — not enough phones, the lift didn't work, the fire alarm went off, and some exhibitors were a little hot under the collar! But by 11AM everything was forgiven — we really delivered the visitors."

The Show certainly had something for everyone. On the games front, *Microsoft's* usual psychedelic display included the latest title, *Runes*, plus a preview of *Yak's Progress*. *CDS* showed their *Cadawan Chess* and *Steve Davis Snooker* titles, while *Master's Crazy Comets*



Show of the year



Self-proclaimed 'top of the line'...



CPUCD seminar

and *Lightwave Labs's* *Wink* games controller and peripherals. *Trojan* showed the latest in their popular series of lightpens, the *Commodore*, with hi-res graphic software.

Exhibitors fans enjoyed demonstrations of *Integrative Robots'* *buggy*, and *Microson's* robot arm for the 41, while price for the London display went to *Synchromic Mark's* *Highland* electronic potometer add-on, *SEI's* *Sealed Buggy* and music software. Perhaps the most



Proclaim's 128 software



Crowds pack the main hall of Rock West

spectacular hardware was *Commodore's* own, distributed by *Gabrielian*, the *C128*, *1670* disk drive and *1981* monitor were on show together for the first time, and on sale at special prices.

Darkworth, Level and *Compu-puter Bookings* were among those showing the latest Commodore books, while utility software was also strongly represented by *Proclaim*, with a range including new *C128* titles, *Janine* with their *Analogue*

English software, and a wide range of general dealers.

User groups were well represented, with *ROPUG's* stand drawing many subscriptions, and the popular technical seminars leading to some useful discussions (some of them held in a room big enough to hold them!)

CCU, the independent Commodore users club, put on a fascinating display of the latest facilities on the 'net', including the real-time interactive chatline feature.

Finally, the *Hamline* stand,



Integrative Robots

proved a popular hit, and not only on their own stand!

Hardware dealers did well too, *Babylon's Turbo Cartridge* and *Blood Alignment Kit* did well, as did *H&P's Final Cartridge*, demonstrating screen damage and various operating routines. *Everest Micro's* *Quicklink* was another popular add-on, and *Modem House's* communication equipment demonstration was surrounded by crowds, as was *Fightstick's* range of joysticks.

REWARD OFFERED

THE SHOW was marred by the theft of a *C128* and a *1541* disk drive from the Commodore Horizons stand. The equipment was left under the stand on Saturday night, and was found to be missing on Sunday morning.

The power supply for the *C128*, and the mains lead for the *1541*, were left behind — so the thief will have some trouble

getting either machine to work, or in selling the equipment.

If you have any information which will lead to the recovery of the *C128*, serial number EA 880483, or the *1541* disk drive, we will pay a substantial reward.

Contact Chris Perkins on 01-457 4407 if you have any information. All calls will be treated in strict confidence.

managed by the hard-working staff of *Microson*, and *Popular Computing Weekly*, dispersed books, magazines, and prize lots and harmony in equal amounts. Drawing rapid responses to the stand was Jeff Miller's *System 2* game, as printed in the October issue of the magazine, and its prize-winning competition. Its offer were a *C128*, five disk drives and hundreds of numbers-up prizes of books, discettes, watches, and badges. After a first of joystick-bashing which saw incredible scores being racked up, only six defeated moments later, the judges have now sorted through the entries and awarded the prizes. If you have not been lucky enough to win, thanks for entering — look out for more great competitions in this issue and issue and come.

Thanks to everyone who made the show such a great success — plans for the next one are going ahead.

£79.99. All in.

(plus p&p and insurance)



Now you can buy a Communications Modem for your 64 or 128 direct from Commodore at an amazing price.

Just £79.99.

A small price to pay when you consider what the Modem gives you.

For starters there's everything on the following list:



You can link up with other 64 or 128 owners – swap games, information, send messages, receive replies or just chat.

Download free software, including over 50 educational packages.



Buy the latest software from leading companies at special prices.



Meet friends and foes in MUD the multi-user adventure game.

Access giant data banks like Prestel, Micronet, and Blaise.



Receive your first year's basic subscription to Compunet absolutely free. Worth £30.00



Free access to Compunet between 6.00pm and 8.00am. And all weekend.

Cheap to use. Most people's calls will be charged at local rates – only 40p per hour.

Easy to install – plugs straight into a new B.T. socket.



All this, plus much more will be yours when you take advantage of this "£79.99. All in" special offer.

If you want to get more out of your 64, or 128 by spending less on a modem, please complete the coupon and send to:

 **commodore**

Commodore Communications Modem,
1 Haversham Road, Welton, Cotham,
Northamptonshire NN17 3JX.

Please return a Commodore Modem with a FREE subscription to Compunet.

I enclose a cheque/local order for £24.99 (include post, packing and insurance) at £4.99.

Make cheque payable to Softpoint.

Please debit my Visa/Mastercard

Account No:

Name (block capitals please)

Signature

Address

Postcode

Allow 10 days for delivery.

Registration subject to Compunet terms and conditions.

Send to: Commodore Communications Modem, 1 Haversham Road, Welton, Cotham, Northamptonshire NN17 3JX.

Useful Impex

IMPEX SOFTWARE has three new utility packages for users of Commodore 64s and printers. **Screen Dump** is a disk-based utility which resides in an area which does not conflict with most commercial programs. It can be used to produce screen dumps of hi-res screens, including text and sprites, in a number of formats, using the MPS-801 or 1015 printers. Parallel printers can also be used with an Intelligent Interface.

Font Factory can read any Commodore ASCII file, convert the characters into a new character set, and print out on the 1015 and 801. There are eight new fonts included on the disk, including one which gives the 801 true descenders. **Font Factory** also allows control over line width, left margin, line spacing, leaders, and so on, included in the package, which costs £29.95, is **Sign Writer 64**, which allows you to print out giant posters.



Lucy, Fantastic Filter, complete with **Fantastic Forms**, is an all-purpose data base with menu driven subroutines, including search by number or specific criteria, easy editing, deleting or updating of records, mailing label printer, and up to 128 characters per record with up to 15 fields. The average number of records per disk is 1000.

For more information, contact Impex at Metro House, Second Way, Wembley, Middlesex, 01-800 0999. We hope to review the software mentioned soon.

C128 for business?



WITH THE 128 disk drive and the 1008 81281 colour monitor at last reaching the shops, Commodore's C128 system seems to be destined to be promoted as a business package.

At £469 for the C128 and 1070, and £299 for the monitor, the system will be outside the price range of many home users. As more potential customers realise that without an expensive 81281 monitor, the

80 column display is 128 and CP/M modes cannot be used, rival systems by manufacturers such as Amstrad seem to present increasing competition.

Commodore's Chris Keady commented "After Christmas we will be looking for specific market objectives to get the C128 into small businesses."

The 64, due to be reworked later this year according to some sources, will now be sold as an applications drive — one

example supported by Keady was as a music package, "since the Music Studio synthesiser products we have been marketing are quite brilliant." Keady also suggested that distribution channels for the 64 may also be altered.

The Amiga is said to be on target for a January 1986 launch, and will probably be shown to the public for the first time at the Which Computer Show in January.

The Yak attack

JEFF MINTER'S retrospective 64 games collection, **Yak's Progress**, is now in the shops. The two-cassette package includes eight games, tracing Jeff's career from the early days of Vic contributions to the glitzy

height of the Hairy games.

Titles included are **Attack of the Mutant Camels**, **Mutris**, **Laser Zone**, **Bevings of the Mutant Camels**, **Sleep in Spore**, **Metagolitic Llamas** **Battle at the End of Time**,



Pan on course

HILL MCGIBBON publishers, in association with Pan books, have released CP/M 64 cassette versions of their interactive tutorial software.

The Pan Course Tutors series includes programs on **Biology**, **French**, **Maths**, **Physics**, and **Chemistry**, and each is designed to cover eighty percent of the 'O' level exam syllabus. The test questions printed in the Student Guide are taken from actual

exam papers from previous years. Each pack consists of two cassettes, the Student Guide and a paperback book. The software learning modules, accompanied by colourful graphics, take the student through a series of structured questions.

For more details contact Hill McGibbon, 8 Cranboe Street, London W1N 1JA, 01-493 7870.

Arithmetic, and **Shave Barrow**.

Accompanied by a booklet of instructions and historical notes, **Yak's Progress** is packaged in a giant ruler case and costs £24.95 in cassette. A disk version at £11.99 will be along in due course.

Contact Lismarth, 49 Mount Pleasant, Todmorden, Hants.

Horizons pin-ups

HOW ARE YOU going to keep your Commodore warm this winter — the answer, of course, is... WRAP YOUR CHIPS IN COMMODORE HORIZONS!

Now you can get a great limited edition 3-inch three-colour badge which tells the world that you read the best Commodore monthly. And to make it easy for you, there's no need to collect silly tokens, make up dull slogans or identify the capital of Iowa/Indiana. ALL YOU HAVE TO DO to get your badge is to find a five pence, wrap it up and post it to us at: THE BADGE SHOP, Commodore Horizons, 12-13 Little Newport Street, London WC2H 9PP. That will take care of the huge production cost plus postage and packing.



Numbers are limited, so get a move on. Soon you will be able to meet a reader or lover magazine as they appear in shops at the newspapers.

Lightwave latest

HARDWARE distributor Lightwave Leisure has announced the latest additions to its range of imported products for the Commodore computer.

The range includes The Walk memory-switch games controller, the IMPACT Mouse, motherboards, cables, disc-overs, joystick adapters and other accessories from the West German company Tele-Mat.

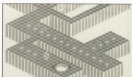
Lightwave's products range also includes hardware for Atari, Amstrad and IBM machines, and all products are packed with clear, informative descriptions. For more details contact Lightwave at PO Box 25, Watney, Mirrleeside, L44 1PW, or phone 051-629 3058.

Mad Melbournes

MELBOURNE House's arcade game *Comscope* has its CBM-64 version released on November 19th. The game, based on the popular *Mable Madness*, is a colourful and fast-moving test of skill in which you have to guide a spinning gyroscope through a three-dimensional course of ramps, slides, one-ways and gulleys. The screen scrolls downwards to follow your progress, and the action is accompanied by sophisticated music and sound effects.

Comscope costs £5.95 on cassette and £14.95 on disk.

Also due for release is *Rock and Wreck*, a follow-up to *Wap of the Exploding Flat* by the same programming team.



The game features thirty illustrated fighting moves done in a humorous cartoon style, ten opponents and a rock music soundtrack. There are one- and two-players modes.

Rock 'n' Wreck costs £5.95. Reviews of both titles forthcoming contact Melbourne House at Castle Yard House, Castle Yard, Richmond, TW18 8TP.

Squash that bug

IF YOUR 64 is on the blink and you aren't afraid to open it and poke around inside, John Wiley has just published the book for you. *Troubleshooting and Repairing Your Commodore 64*, by Art Margolis, is a 200-page manual designed to help you to isolate faults, identify malfunctioning components, and repair your 64 quickly and professionally.

The book, from TAB Books of America, includes sections on disassembling the 64, identifying chips, servicing logic gates, testing input/output ports, checking power supplies, and much more. Each section is accompanied by large, clear diagrams and photographs, and explains the tools needed to



carry out tests, including logic probes, oscilloscopes and continuity testers. Margolis explains that many simple repairs can be carried out using just a soldering iron and a chip extractor.

The book includes master schematics and an index, and costs at £15.95. For more details, contact John Wiley and Sons, Baffins Lane, Chichester, West Sussex, PO19 1UD, 0245 784551.

Firebird is F.A.B.

FIREBIRD'S Super Silver Range has been launched. The new label, featuring games of higher quality than the Silver range at £1.95, includes four titles for the 64: *The Adventure of the Willow Palace*, an original arcade adventure; *Thunderbirds*, a covers-and-traps game based on Gerry Anderson's popular British science fiction puppet series; *Chimera*, a space arcade adventure; and *Chicken Chase*,



a classic action game. The games will be in the shops soon. Talk to Firebird at Wrothington House, Upper St Martin's Lane, London WC2.

Accolades for US Gold

US GOLD has signed a licensing agreement with Accolade software of California. Accolade's titles include *Hard-*



ball, a baseball simulation; *Law of the West*, a graphic adventure; and *The Pit-5 Trading Company*, a space trading game with arcade and strategy elements.

The games will be released in series, starting in January. To find out more, contact US Gold at Unit 18, Parkway Industrial Centre, Monagga Street, Birmingham, 021-558 8881.

THE COMMODORE 128. HARD FACTS ABOUT THE SOFTWARE.

PAZAZZ



PAZAZZ

... ..



COMMODORE 128
Script 128

PERSONAL MONEY MANAGEMENT



PERSONAL MONEY MANAGEMENT

... ..



With hundreds of software packages available never has a more useable machine been launched.

Three modes mean you can use software for the Commodore-64, software for the CPM system and new software specially written.

Here are just three new examples of what is available.

Visit your local dealer for your 128 software or call the Commodore Information Center on Doherty (855)63-2052 for more information.





C128 — THE SYSTEM

*Chris Jerkins looks
at the 1570 disk drive
and the future of
Commodore's C128*

COMMODORE'S C128 is now firmly established in the home micro market, and along with the 1570 disk drive and 1904 monitor most compete with rival systems such as the Amstrad CPC 6128 and the Atari 130 XT.

So how does the C128 measure up? Obviously, with its three operating modes it has an inherent advantage, the choice of CGEM4 software, with its unmatched range and power, 128 mode software, with its greater available memory and improved graphics facilities, and CP/M software, which makes available a powerful business operating system.

Prohibitive

The C128 itself is obviously attractive, but critics have pointed out that it needs the 1570 for disk drive, an 1194, and the 1601 RGBII monitor, an 1299, to make it worthwhile. The cost of the whole system becomes prohibitive.

The 1570 disk drive is a disappointment after the promise of the 1571. This double-sided device, at 1299, seems to have been too expensive for the UK distributors, though it will probably be available in the States.

The 1194 retains, to the disgust of most users, the design and sheer bulk of the 1141. Compared to the sleek design of the C128 it appears old-fashioned, though the colour at least matches.

Like the 1141, the 1170 has just an on-off switch, power indicator, data transfer indicator, two serial sockets and a master load socket. It's certainly not complex to use, and its CP/M mode utilizes several advanced DOS commands.

The 1170 can read any CGEM4 disks designed for the 1141, but of course in this mode it cannot make use of the extra 1570 features. It automatically shifts to its mode on initiation of a fast serial transfer from the C128.

The 1570 comes complete with a good manual (ie, basically, the 1571), and a demo disk containing a DOS shell program. This 8K suite of programs can be called up at any time by pressing F1 on the C128, and provides many facilities making disk operations easier, for instance formatting disks, verifying disks to tally up the block allocation map, and deleting remaining and restoring files. Anyone familiar with the complexities of those routines using the 1141 will be suitably appreciative.

The C128's Basic 1.0 contains many commands which are not available on the 64 and 1241 systems. These include advanced VERIFY, SAVE WITH REPLACE, SCRATCH, COPY, RENAME AND CONCAT commands.



To most Commodore users, the world of CP/M will be new and exciting. The 1570 disk drive uses a method called Group Code Recording to record CP/M data, though the more common Modified Frequency Modulation system can also be used. The C128 runs CP/M version 3.0, which is supplied on a disk when you buy the drive. However, without an 80-column RGBII monitor, you will only be able to use most CP/M software by using the C128 in 40-column mode and scrolling the screen out an easy task.

So the major advantages of the 1570 are its use of advanced DOS commands, and its speed — fast to ten times faster than the 1141. Of course, this is only of significance when considered in terms of the software available, so what is there for the C128 so far?

Obviously all 64 software will run on the C128, and the temptation for software houses must be to ignore the extra memory and eighty-column capabilities of C128 mode in order to produce products which will still be available to 64 owners.

Most of the "C128-compatible" software so far, then, is just 64 software with a C128 label, but some software houses have made the effort to adapt titles to take advantage of the C128's new facilities.

Micro Swift

Analogue's *Micro Swift* spreadsheet for the C128 uses the same pop-up menu system as the recent 64 version. There are some obvious differences, though. For a start, *Swift 128* uses the 80-column display, so you can see twice as much of the spreadsheet at a time, but you will need an RGBII monitor. The program also uses the extra available RAM to give you 44K of free memory.

Since the 128's function keys are not situated as conveniently as those of the 64, the



Function key controls are duplicated by the cursor keys, and there are other menu key options. Unlike the 640 version, you can format a cell even when it is empty. Total opening size is 64 columns by 204 rows, and Swift 128 has built-in continuous printer software. At \$24.99, Swift 128 will probably be one of the earliest 128 software success stories. Connections of AudioLogic's other titles are anticipated.

Precision also has a range of CIB versions of 64 originals. Superscript 128 is a combined word processor, spelling checker, calculator and mailmerge program developed from the world-famous EasyScript. Featuring simple command sequences, selection by cursor, single-key command response menu, block manipulation for cut-and-paste, search and replace, block case shift, up to 240 columns width, 30,000 word dictionary, and so on. There's an option to upgrade from EasyScript 64, too.

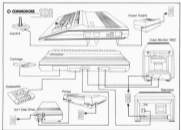
Superbase

Precision's Superbase is another milestone program, now available for the 128. This features up to 15 files per database, with sixteen characters per file name, unlimited records per file, 15 screen lines per file, 127 fields per record, 1800 characters per field, 1807 characters per record, and so on and so forth. What is perhaps most impressive about these two programs is that they can be resident in the 128's memory simultaneously, and can exchange information freely. Obviously, the combined possibilities are enormous. Each program is around the 100 mark, though you may be able to get a special deal on the two together.

A third respected utility program, Visi-Write, has now been converted for the 128 under the name Visi-Write Classic. At \$29.95, you get a pull-down full-function calculator, column print-out, spelling checker, proportional spacing, three printer fonts and a customizing facility.

Commodore themselves premier Parat, a graphic "performance" package which allows you to customize music, cartoons, scenery and photography to create your own dramatic performances on screen. Also in the pipeline is Script 128, a word processor allowing two documents to be held in memory simultaneously, and Personal Money Management, a budgeting program.

So far, CIB software (not counting the expensive CP/M packages, which we will look at some other time) is impressive but thin on the ground. Only time will tell whether the C128, 1770 and 1600 monitor will sell in sufficient quantities for it to merit a more extensive software base. ■

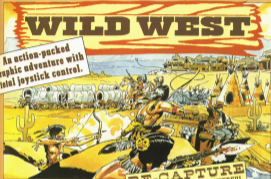


WANTED

(DISK OR CASSETTE)

WILD WEST

An action-packed graphic adventure with total joystick control.



RE-CAPTURE
FORT SNAKE USING YOUR POWERFUL
COMMODORE 64
and a little help from THE SPYTES

On-screen action includes:-



A BANK ROBBERY
A SHOOTIN' COMPETITION
A RODEO RIDE

Plus a cast of thousands including cowboys, Indians, outlaws and pioneers.

GET 'WILD WEST' - OUT NOW ON DISK OR CASSETTE.

Available from all good software retailers - if it's not there, please order it - or in case of difficulty send your crossed cheque/P.O. made out to AMIGASOFT UK LTD., including your own name and address, to: AmigaSoft UK Ltd., Asphalt House, Palace Street, London SW1E 6HS.

WILD WEST - Commodore 64 Cassette £9.95 Disk £12.95

All orders subject to price fluctuations. Please allow 4-6 weeks for delivery.

REWARD
hours and hours
of all-action fun
amidst incredibly
accurate graphic
images of the
Old West.



amigaSOFT
HIGH PERFORMANCE PROGRAMS

£9.95

ROBIN of the wood



Orbit
COMPUTER GRAPHICS LTD.

SALES 051-709-4462
TELEX 628332 GAME G
SPECTRUM 48K - COMMODORE 64

Egyptian shuffle

Interplay is a surprising change of direction for *Ultimate*. Unlike the *Kanako*/*Fantwood*/*Warlock* arcade adventures, this one appears to be a straight shoot-'em-up, fought in rather than written in-house.

At the wise Egyptian Interscope, you must make a perilous journey to find the Books of Ra, which alone can restore the silted waters of the life-giving Nile.

Unfortunately, though the insert gives the usual *Ultimate* list of goodies — catapult, grenades, secret tunnels, invincible steps, antibodies and so on — the game is so difficult that it's impossible to give it a fair review. In the first stage you guide Interscope's eagle through the air,

avoiding or shooting down enemy vultures. In the second



stage thunderbolts are added to the dangers. The scrolling backgrounds are pretty and the

sprites move intelligently, but despite frantic joystick-wielding I could not progress to the later stages, where the instruction hint that the action becomes something more than simple.

Certainly something new for *Ultimate* — but perhaps not what people would anticipate.

Program: Interscope, 64
Supplier: Interscope
Price: £3.95
Graphics: ★★★★★
Sound: ★★★★★
Gameplay: ★★★★★

Demonic

Attached to concepts in the *Amstrad* *Way of the Exploding Fish*, *Fighting Warrior* again presents two sprites battling each other endlessly against an exotic background.

In this case the setting is Egyptian — seems to be the thing at the moment — and you are a champion warrior on a quest to rescue a beautiful princess (aren't there any plain princesses?).

The backgrounds aren't as detailed as those in *Fist* — largely sand — though the pyramids and monuments are



well drawn. The large sprites move convincingly, giving each other painful-sounding wacks to

the head, body or legs, and leaping or dodging to avoid blows. At the bottom of the

screen a gauge shows your remaining strength.

The enemies are extremely varied, ranging from the innocuous to fiends and a wonderfully horrific winged demon. Each has its own style of fighting, and you must defeat one of each kind to succeed in your quest. Magic bottles offer some magical help along your way.

Excellent violent fun.

Program: Fighting Warrior, 64
Supplier: Multimedia House
Price: £3.95
Graphics: ★★★★★
Sound: ★★★★★
Gameplay: ★★★★★

Blast off

If some time since we've seen a good conversion of an established arcade game, well done, they always give a good deal of pleasure, though if done badly they tend to be a pain in the foot. It's pleased to say the *Cray Crayons* is a decent version of *Missile*.

You control a spaceship which

is assigned to destroy unstable planets before they lead to an



uncontrollable collapse in the structure of space. Armed with

the usual laser-planet sensitive-zapper, you dash around the screen blowing away planetsoids before they grow in size and chase you around the universe.

Excellent sprite handling, with the full-sized planets displaying their swirling, churning moonslets, each of which has its own shadow. The usual 1 or 2 player options, bonus lives, extra points for picking up space capsules, and not music for the stars

programme responsible for *The Last KET*. Not a perfect copy, close on the original you could spin the ship around to any angle; but a great blast nonetheless.

Program: Cray Crayons, 64
Supplier: Muxorb
Price: £3.95
Graphics: ★★★★★
Sound: ★★★★★
Gameplay: ★★★★★

Robin them blind

Very reminiscent of *Roller Walt*, *Robin of the Wood* is graphically attractive and generally slick and polished. As Robin, without merry men, you run through the forests and castles of Nottingham in search of the sacred arrows you need to

complete in the archery tournament. Quivers of arrows



are hidden around the forest, but they are often guarded by

witches. You must collect woodland flowers to reward the witches, and watch out for the hermit who can cure you if you are near death.

Injury is caused by encounters with Norman guards, who you can zap over the head with your staff, or headplop.

Headplop?
The reward and how are in the keeping of a forest list, and to pay for them you need to hand over bags of gold, before going on to complete in the journey.

Robin is well adorned with flowing hair and tastefully-cut jerkin.

Complete with medieval music, *Robin of the Wood* is a nice effort, though clearly derivative of a number of successful titles.

Program: Robin of the Wood, 64
Supplier: Mita
Price: £3.95
Graphics: ★★★★★
Sound: ★★★★★
Gameplay: ★★★★★

Stop playing games— Start earning money!

The computer that's been giving you such a fun time with games now gives you the chance to earn some money. Helping you with word processing, secretarial work and even running your own business. All because of the brilliant new word processing package, SuperScript from MicroPro — the makers of WordStar — the world's best selling word processing packages for microcomputers.

SuperScript

writes letters, invoices, reports, tables, documents, it stores, edits and even checks spelling.

Variable SuperScript! SuperScript combines word processing, spelling checker, calculator and mail-merge facility, all in one package. In SuperScript you can do all the tasks you need to produce final quality reports, tables, lists, promotional letters and press releases quickly and efficiently.

Simple for the beginner! If you are a beginner to word processing, SuperScript puts you immediately at ease. Each command is signposted and for each command you simply move the cursor. You don't need to type the command.

Good with numbers! SuperScript allows you to extend your editing time on to 256 columns for wide documents (by typical standards) and with floating text windows to enter properly formatted tables of numbers. SuperScript's complete set of calculation functions are derived from scientific or mainframe computer software from the best of your investment. Apart from the usual mathematical functions like add, subtract, multiply, divide, and percentages, you have the ability to address, column or row whole tables.

Good with spelling, too! The built-in spelling checker goes right through your text, checking frequently. You have the option to substitute error, ignore it or add the word to its 250000 words list.

Editing options! SuperScript gives you all the editing options of a business word processor, with full screen manipulation for column padding, overtype or text insertion modes, search and replace with pattern matching and wildcards, and also a powerful find-and-replace search, a row deletion option or larger document text. And much more.

Powerful for the experienced user! SuperScript also gives you the ability to cut, work down to a minimum by using your own command sequences or text on single text. This means that with a single keyboard you can produce extremely sophisticated and realistic abstracts from lengthy text in document format or create a pre-programmed sequence of operations.

Mailings with SuperScript! Personalized mailings are easy with SuperScript. You can enter the data manually or use data contained in your spreadsheet or database. Merging can be automatic. A mailing label template is included to help you complete your mailing and you can alter the template to suit your own label format.

Attention Easy Script users! If you're already an Easy Script user, then SuperScript is the obvious next step. With its enhanced features and more powerful facilities, you'll be able to do so much more. There are no compatibility problems either. You can now use Easy Script data in Easy Script documents data under SuperScript. And by entering your Easy Script data you obtain an upgrade for just £49.95.



AVAILABLE FOR
**COMMODORE 64, 128
ATARI 800XL, 130XE - APPLE IIc, IIe**

SuperScript Word Processing Software is available direct complete with Comprehensive User Manual. Only £79.95 including VAT and Postage. OR FROM ALL GOOD DEALERS.

**NEW
WORD
PROCESSING
PACKAGE**

SuperScript



MicroPro International Ltd
MicroPro, Raynham House, 20-21 High Street, Wimbeldon Village, London SE26 5DR

**ORDER
BY PHONE**

ASK YOUR LOCAL
DEALER FOR THE
SUPERSCRIPT PACKAGE,
OR ORDER DIRECT BY
PHONE

0483 503121

QUOTE YOUR CREDIT
CARD NUMBER OR BY
COMP CARD AND
RETURNING THE ORDER
FORM WITH YOUR
CREDIT CARD OR M.C.S.
OR B.C.M. FORM

SuperScript

ORDER FORM

To Super B01, CEMANA Ltd, Peace Trading Estate, Broad Street, Colindale, Surrey GU2 2BA
Please supply the following:

QTY SuperScript £79.95 (includes P&H cost) _____ computer

QTY Upgrade for Easy Script £49.95 (includes P&H cost) _____ computer

Other mailings Easy Script data should be returned with this order. *Commodes 64, 128, Atari 800XL, 130XE, Apple IIc, IIe

I enclose remittance for £ _____ (Cheques made payable to CEMANA Ltd, or charge my credit card)

Account/Visa No. Signature _____

Name _____

Address _____

If you are intending use SuperScript for a specific purpose, we should be interested to hear details. Thank You.

Leaping about

Dynamic Dan may be, I'd hope, the last of the dying breed of ladder and platform affairs. Very well programmed, with some excellent sprits of foot and wit, it is nonetheless often nothing you haven't seen in hundreds of Mario Wonders

inventions. Secret Agent Dan has to find



six sticks of dynamite by using that after half a week longer

steadily too many). In order to open the cave of Professor Blava and retrieve some stolen documents, it's the usual left-right-jump business, with useful objects such as food, credit cards, test tubes, oxygen, and deactivators (deactivator?) being guarded by hordes of Gloopogues, goblins, slugs and lizards. Transpines and springboards help you along the way.

Dynamic classical music, (well, it's cheaper I suppose, a funny death sequence and good sound effects make DDD a memorable ladder-and-bouncer if that's what you're after.

Program: Dynamic Dan, 64
Supplier: Mintersoft
Price: £6.95
Graphics: ★★★★★
Sound: ★★★★★
Gameplay: ★★★★★

Quiz time

After the disappointment of *Alien Quiz's* *Monstrous Britain* — an American is studied of general — it's also to see that Acing has managed to produce a much more playable version of the game *Trivial Pursuit*.

The questions in this family quiz are divided into six

categories — Entertainment, History, Sport and Leisure, Geography, Arts and Literature, and Science and Nature. There are four blocks of questions included in the double cassette pack, with 1400 questions in all.

The game is played on a representation of a board; the computer throws the dice for each player, and presents a question depending on what colour square you land on. You don't type your answer in, just

about it out, then press the space bar to see if you're correct!



Two to four can play, and the package includes a routine

allowing you to enter your own questions. These I came across are pitched at very good level — just the sort to make you say "I know it! It's on the tip of my tongue!" A good Christmas buy, I would have thought.

Program: Trivia UK, 64
Supplier: Acing
Price: £9.95
Graphics: ★★★
Sound: ★★★★★
Gameplay: ★★★★★

Invited guest

The Little Computer People research project, has, for the first time, explained all those mysterious micro bugs and glitches. Yes, there are people living in your computer — and this program helps you to find out all about them.

One of the most original ideas of the year, the Little Computer People program creates a focus on the screen of you 64, and with any luck an LCP will move into it. You'll soon discover that each LCP has his own name and distinct personality; you can watch the LCP's dance, play the

games, watch TV, make phone calls, feed the dog, go the



bedroom — everything real people do.

The program really becomes fun when you communicate with

the LCP, playing poker, having presents at the Front door,

making sure he has enough food and water in the boiler (otherwise he'll turn green and lie in bed all day), and getting him to type messages to you.

Written by a team headed by David "Globebuster" Crane, this package is technically excellent and lots of fun — typically American, coming complete with a deed of house ownership and an LCP magazine at point. You won't want to switch it off.

Program: Little Computer People, 64
Supplier: Activision
Price: £19.95 (ret), £14.95 (dis)
Graphics: ★★★★★
Sound: ★★★★★
Gameplay: ★★★★★

Double top

Difficult to know quite what to make of this one; I have a soft spot for it, though I couldn't give a logical reason why.

Opening with an animated sequence of a jolly darts player slipping into the pub, Video

Darts has a sort of cartoon feel to it which I find quite



endearing. There are two versions of the game on the cassette, one for playing against

the micro and one for two players. In each case the playing screen divides into two areas: a display of a slice of the dashboard, and a picture of the player standing against the bar. Moving the joystick right and left rotates the board to the desired position. You then place a cursor over the section you wish to hit. The player's hand waves back and forth, you try to press the fire button when his arm is in the forward position,

and the dart either flies true or goes wild. The scoreboard shows your achievement and the computer takes its go, until one or the other wins.

That's all there is to it; I can't really explain why I like it!

Program: Video Darts, 64
Supplier: Zile
Price: £7.95
Graphics: ★★★★★
Sound: ★★★★★
Gameplay: ★★★★★

DIMENSION computers l.t.d.

27/29 High Street
Leicester LE1 4FP
Tel: (0533) 57479

THE MIDLAND'S LARGEST HOME COMPUTER STORE

commodore

SOFTWARE OFFERS

**NOW IN STOCK, THE NEW
COMMODORE 128D
WITH BUILT-IN 1571 3-MODE
80 TRACK DOUBLE-SIDED DRIVE
£499.95**

**COMMODORE MPS801
DOT MATRIX PRINTER
WITH
EASYSOFT (Wordprocessor)
EASYFILE (Database)
FUTURE FINANCE (Planning package)
£129.95**

**COMMODORE PERIPHERAL
PACK
+ MPS 801 PRINTER
+ 1541 DISC DRIVE
OFFER PRICE £199.95**

**STAR 9G10C PRINTER
WITH
EASYSOFT + EASYFILE + FUTURE FINANCE
£279.95**

**STAR GEMINI 10X PRINTER
128KPS Bi-DIRECTIONAL DOT MATRIX
PARALLEL INTERFACE
£199.95**

**COMMODORE EQUIPMENT REPAIRS
PLEASE RING FOR FULL DETAILS OF OUR
COMPREHENSIVE REPAIR SERVICE**

COMMODORE C2M DATA RECORDER	£44.95	£34.95
Commodore MPS 801 Printer (without software)		£89.95
Commodore MPS 803 Printer		£139.95
Commodore 1701 Colour Monitor + Seiko Computer Wrist Terminal Watch		£199.95
Commodore 64/128 Green Screen Monitor		£299.95
Commodore 128		£269.95
Commodore 1570 Drive		£199.95
Commodore 128 + 1570 Drive		£449.95
DPS 1121 Daisy Wheel Printer		£189.95
Pair Quickshot II Joysticks		£14.95
Currah Speech 64		£79.95

PERSONAL CALLERS AND EXPORT ENQUIRIES WELCOME

ALL OFFERS STRICTLY SUBJECT TO AVAILABILITY

PRECISION		
Supermodel Disc	£29.95*	£49.95
Supermodel III	£29.95*	£49.95
Supermodel - Supermodel Disc	£29.95*	£49.95
Supermodel (Young Tutor) Disc	£29.95*	£49.95
Supermodel (Young Tutor) Tapes	£29.95*	£119.95
Supermodel 128 Disc	£29.95*	£49.95
Supermodel 128 Disc	£29.95*	£49.95
Supermodel - Supermodel 128 Disc	£29.95*	£124.95

*These offers end 27th January 1989

COMMODORE		
Easy File (Database) Disc	£29.95*	£19.95
Future Finance (Planning Package)	£29.95*	£19.95
Easysoft (Wordprocessor)	£29.95*	£19.95

ARCADE/GAME		
Microsoft All (Wordprocessor), Cartridge	£29.95*	£14.95
Mega (Database), Cartridge - Disc	£29.95*	£14.95

BASIC		
Taylor (Spreadsheet), Cartridge	£29.95*	£14.95
Easy Disc	£29.95*	£9.95
Calc (Business Applications), Disc + Cartridge	£29.95*	£29.95

PRASCOPE - Business Starter Pack		
Inventory (Stock Control/Package), Disc		£29.95
Product (Inventory Spreadsheet), Disc		£44.95
Printer (Sales Record Database), Disc		£44.95
64 Dot (Inventory/Shopping), Disc		£19.95
64 Pack (Shop Applications Pack), Disc		£14.95

Total Retail Price **£1282.00**
OFFER PRICE **£689.95**

PRASCOPE - Advanced Spreadsheet with Database Window-Opening Facilities, Disc Mini-Simple		
(Account - 300 Packages), Disc	£129.95*	£99.95
Legal + Pilot (Educational/Legalising), Disc	£64.95*	£14.95
Solo Brown Plus (Wordprocessor), Disc	£69.95*	£9.95
Solo Brown Plus (Wordprocessor), Tapes	£69.95*	£9.95
Product (Spreadsheet), Tapes	£29.95*	£9.95

Please add £3.00 towards carriage + packing on any software order, or hardware or disc order £49.95, and £5.00 Carriage on hardware orders over £49.00

To order, either send cheque/P.O. with coupon or ring (0533) 57479/2796 with Access/Accesslayer number.

ITEM	QUANTITY	PRICE
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
TOTAL	

Name

Address

Telephone

PLEASE ALLOW 7 DAYS FOR DELIVERY

'Mazing

Apologies for concentrating less much on Mastertronic games this month, but if they bring you so much good stuff, who are we to ignore it. There's an amazing amount crammed into *Space Hunter*, none of it lost original, but all good fun.

The main section is a sort of space flight simulator, in which you start via your tracking computer to locate food transporters. The display screen gives a good impression of movement as you dash through the universe with one eye open for space pirates.

Having located a ship you rendezvous with it and transport aboard. You must now search



through the maze-like internal passages on your jobbie, looking

for food and fuel. Various alien black you say.

A little short on instructions, this one, but a nice combination of style and good at the price.

Program: Space Hunter, 64
Supplier: Mastertronic
Price: £1.99
Graphics: ★★★★★
Sound: ★★★★★
Control: ★★★★★

Mad Max mission

First of the new Mastertronic Added Dimension games at £2.99. The *Mad Max* is still a terrific bargain. It's a sort of post-apocalyptic *Die Hard* set *Back to Back Street*, with a four-way scrolling map, and various data readouts on the control panel of your 40mph V8 car.

Exploring the post-holocaust world, you are informed that a delayed action warhead is about to be detonated. With only minutes to go, you must stop



you can through the wreckage to return home base. You have to drive at breakneck speed to

arrive on time, and even then you face the hazards of radioactive waste which will eat through

your shielding if you delay.

The map display is excellently detailed, and the gameplay compelling and frustrating. It will take ages to master steering the car, so for those playing via the box, purchase for some time. Accompanied by decent speech synthesis and absolutely outstanding music, this game is winner of this month's "steep whatever you're doing and dash out to buy it" award.

Program: The Mad Max, 64
Supplier: Mastertronic
Price: £2.99
Graphics: ★★★★★
Sound: ★★★★★
Control: ★★★★★

Insect killer

I think this is based on an arcade game called *Tempest*, but having never played the original I'm not qualified to compare it on those grounds. *Anti Anachia* is one of Ariston's "budget" titles, and is a fairly good blast though it

it's worth to look at.

The game grid scrolls into the



distance, and along it swims a bank of insectoid killers. You

move your Anachia along the forward edge, firing down the grid lines to destroy the insects and reach the Master Anachia, a menacing giant spider.

There are various kinds of enemies, some fast moving, some exploding, some coming in pairs, but all deadly if they reach you. You have only your blaster and a limited number of Pulse Bombs, each one of which can clear a web. There are over 100

different sets to master, and a New screen where you can try to fire your captured companions.

Not bad, but slightly spindly graphics and a general lack of strategic sophistication.

Program: Anti Anachia, 64
Supplier: Ariston
Price: £9.99
Graphics: ★★★★★
Sound: ★★★★★
Control: ★★★★★

How to be Topp

This is a conversion of *Spectrum* program which was very well received at the time of its release, and the 64 version compares well.

A jolly romp set among the classrooms of a typical educational establishment (in other words, a cross between *Conan* and *Worried School*). *SkoolDaze* features very clever animation and character interaction.

You can hit other characters, use a catapult, write on



blackboards, pick up and use objects, and interact with characters in your quest to find the numbers in the combination

of the headmaster's safe and receive your report.

To do this you have to be shielded mounted on the wall

with your catapult, attack teachers, climb on your classmates and so on. It's jolly good fun.

To make life more difficult you must follow the scrolling messages telling you which class to attend and reminding you of the school rules, what you you'll be given time to write. Animation and sound good; top-notch music, cheap.

Program: SkoolDaze, 64
Supplier: Microvare
Price: £9.99
Graphics: ★★★★★
Sound: ★★★★★
Control: ★★★★★

Top Twenty CBM 64 Games

1	(11) Spy vs Spy 2	Beyond	£9.99
2	(3) Frank Bruno's Boxing	Elite	£7.99
3	(7) Formula Games 2	Eyes/US Gold	£9.99
4	(4) Willy of the Exploding Fist	Melbourne House	£9.99
5	(5B) Mike Darrs Wins 2	Allgate	£7.99
6	(2) Sky Fox	Artisoft	£9.99
7	(6) Barry McGeigan's Boxing	Artisoft	£9.99
8	(8) Karateka	Artisoft	£9.99
9	(5) Beach Head 2	Access/US Gold	£9.99
10	(9) Blackjack the	Ultimate	£9.99
11	(9D) Panzoid	Newton Consultants	£7.99
12	(9B) Hacker	Artisoft	£9.99
13	(10) Wizardry	The Edge	£9.99
14	(7) Nine Games	Virgin	£9.99
15	(14) Kick Start	Mastertronic	£1.99
16	(20) BMX Trials	Mastertronic	£1.99
17	(12) Action Silver	Mastertronic	£1.99
18	(16) Phoenix 2	Eyes/US Gold	£9.99
19	(13) Elite	Pinked	£14.99
20	(18) Finders Keepers	Mastertronic	£1.99



Bubblers

1	Monty on the Run	Granite Graphics	£9.99
2	Escalita	Mastertronic	£1.99
3	Terrorlines	Melbourne House	£9.99
4	ACE	Cascade	£7.99
5	Blue Max 2001	Synsoft/US Gold	£9.99



Top Five CBM 64 'Non-games'

1	Mini Office	Dateline	£5.99
2	Music Studio	Artisoft	£12.99
3	Make Music with Mastertronic	Mastertronic	£1.99
4	Quill-Adventure Writer	iSoft	£14.99
5	Asimov 2000	Interceptor	£5.99

Bubblers

1	Maths	Longman	£14.99
2	Machine Lightning	Dasia	£29.99
3	Programming with Garik	Gorsk	£14.99



Top Five C16 Games

5	(7) Formula One Simulator	Mastertronic	£1.99
2	(4) Squirm	Mastertronic	£1.99
3	(3) BMX Racer	Mastertronic	£1.99
4	(2) Daley Thompson's Star Event	Ocean	£9.99
5	(5) Sportspace	Mastertronic	£1.99

Bubblers

1	Vegas Jackpot	Mastertronic	£1.99
2	Air Wolf	Elite	£9.99
3	Steve Davis Snooker	ODS	£9.99

Top Five Vic 20 Games

1	(1) Crazy Cavity	Mastertronic	£1.99
2	(2) King Tut	Mastertronic	£1.99
3	(4) RIP The Game	Mastertronic	£1.99
4	(3) Rockman	Mastertronic	£1.99
5	(5B) Vegas Jackpot	Mastertronic	£1.99

Bubblers

1	Psycho Snapper	Mastertronic	£1.99
2	Doordieup	Mastertronic	£1.99
3	HELLS	Mastertronic	£1.99

Data compiled by Gallup from a panel of specialists and chain stores, for the month ending November 7th

Cheetah

THE ORIGINAL



Marketing
are proud to announce
the arrival of their
125 Joystick

Compatible with 286 Sparcstations, Commodore 64, ICL 285, Amstrad, Atari, MSX, etc.

At only £8.95 the features on the 125 are second to none. Besides its unique internal structure, built to withstand extended punishment from even the most vigorous games player, the joystick contains its own four extremely sensitive fire buttons. Two are housed in the handgrip which has been moulded for extra control and ease of operation. The trigger finger fire button provides easy and control for your finger and the top fire button is contoured to fit your thumb for sure fire shooting. The base fire buttons are positioned for easy control and are hand firing whether you are right or left handed.

A built in auto-fire switch provides continuous shooting at the touch of a fire button.

The 125 comes complete with a full 12 months warranty and is available from high Street stores and all good computer shops.

Free catalogue via 1. Postage and Packing. Delivery normally 14 days. Cash orders at no extra cost. Dealer enquiries welcome.

Send Cheque/PO now for:

ONLY
£8.95



with this
NEW JOYSTICK
from

Cheetah Marketing Ltd.

1, Wiltonbrook Science Park, Cockshott Road, St. Mellons, Cardiff
Telephone 0222 771221 Telex 491405



**THE
CHAMPION'S
CHOICE**

SVI
Innovative Computing for Today and Tomorrow

Specialist Ltd, 3rd South Road, Maiden Sutton, Surrey GU20 6JZ
Telephone 01252 2811 Telex 34324 MMR-1002

WEIRD JOYSTICKS

Games controllers aren't all exactly the same, and some are so unusual they can't even be described as "joysticks". Louis Bushaker assesses the most eye-catching



Hudsonsoft joystick



on a table and operated with your forefingers. Having one fire button is handy too, though not as helpful as having an auto-fire option.

■ **JOYSTICKS DON'T** have to be boring, you know — they're not all black, plastic widgets with one fire button, a handle, a base you can't fit your hand around, and a length of cable. Even though they all end up plugged into the same port in your AT, Tn, Citi or Plus-2, joysticks are NOT all the same.

Let's look at some of the more eccentric joysticks on the market — the ones which can offer an unfair advantage on those tricky maze games, or give you a faster blast or an extra long life.

First is the **Hudsonsoft joystick** — unusual because it doesn't have a "handle", "base" or "fire button" as such at all. It's about the size of a credit card. Well, a large credit card, a centimeter thick, and has the usual cable and plug leading from the left hand side. The direction controller is a squarish pad which is operated with the thumb. You rock the pad in the required direction to register a move, and press the fire buttons on the right hand side of the joystick with your other thumb. In other words, it isn't much good for people who don't have any thumbs.

The joystick is virtually indestructible, since there is no pivot points which can give way under pressure, and no contact switches to get bent out of shape. It's perfect

best suited for **Devastation-type games** which require rapid left-right movements, since it can be put flat



Kosix Speeking

■ **THE KOSIX Speeking** is one of the most intelligent. If odd-looking, joystick designs on the market. It's one of the few to take into account the fact that most players do not stick the controller to the table while playing, but hold it in one hand while manipulating it with the other. The Speeking is designed to fit neatly in the palm of your hand, while your fingers curl around the body and your index finger rests on the long fire switch. So, unless your hands are amazingly small or large, the Speeking is really the most comfortable joystick you can buy.

Just to make it even better, the short, vertical shaft has a small knob on the end, rather than the ridiculous huge ball found on some joysticks. The Speeking also features microswitch control both of the shaft and the fire button. This gives a very precise switching action, better than the leaf-switch arrangement of most joysticks, and is also very durable. Since the click of the microswitches in operation is clearly audible, it's also a great help to game play. There are left-and right-handed versions available, though you may well prefer to contact the manufacturer directly to get hold of one: Kosix Computer Products, Unit 15, Solihull Ind Est, Wednes, Gwent, NP23 4QC. At £12.99 the Speeking isn't the cheapest joystick on the market, but may well prove to be one of the best.

■ **THE I I LAXOR** is the only joystick I know of which requires a PFD battery. It's housed in a small black project box, with an amazingly long cable, a microswitch fire button on the end, and a sliding on-off switch at the side. On the top is a red LED which

tells you when it's switched on, and the shaft, four parallel arranged in a diamond shape, and a circular one in the center. These are the principal gimmicks; they're simply metal contacts which rest capacitively to the touch of your fingers. Now, in theory this means fast switching and speedy reaction; but in practice the Laxor seems sluggish and difficult to use, and the small fire button is plain painful.

Perhaps this just means it takes getting used to, but it seems to me that unless you have fantastically clean pickles and a great deal of self-discipline, you'll end up all over the screen with this one. At £18 it seems an expensive gimmick.

■ **ANOTHER joystick** which looks as if it has shed its mind: **The Stick** from Lightwave Leisure. This one is much more ingenious than it looks, since the lack of a base is not a manufacturing blunder, but a matter of choice. Like the Speeking, the Stick is designed to be held in the hand rather than stuck to the table (although there is a detachable sucker).

The Stick is actually operated by tilting it in the required direction — forward, back, left, right. The body contains mercury-filled capsules. The top and front fire buttons are conventional in comparison.

The Stick requires you to evolve a whole new playing technique; you must remember to keep the thing upright (which isn't of course necessary with conventional sticks) unless you want to register a move. Given time, playing with The Stick could become very fast and responsive. Because it's so light, and doesn't need to be held by the base, it doesn't stir your hand either.

■ **THE LATEST** from Coventry looks boringly conventional. It has the usual contoured handle, square base, four suckers and a reasonable length of cable. However, the I23 has no fewer than four fire buttons, plus an auto-fire switch. This makes it ideal for copy arcade games, though since the switching has leaf switches rather than the more expensive microswitches, it isn't as precise as other sticks.

The grip is just the right size for the average hand, and comfortably contoured. On the top is a long, wide thumb button with a very stiff action, while on the front of the



STICKS

grip is a trigger-style button which is lighter in action. On the base are two circular fire buttons, aimed to suit either left- or right-handed players. Between them is the sliding auto-fire switch. This works in an odd way: when engaged, the stick fires continuously whether the fire button is held down or not. I prefer sticks where the auto-fire option only works when the button is held down.

Overall the 123 is a good standard stick, easy to use and offering a wealth of firing options, but it is not the ultimate stick by a long chalk.

■ SPECTRAVIDEO'S Quakebot series becomes progressively more eccentric. The latest batch of designs — none of which, admittedly, may even make it into the shops in this country — includes some well-wired models.

The Quake IX looks very impressive. It's a cross between a joystick and a trackball, in effect, and looks like some sort of space vehicle from 2001: A Space Odyssey. In a cream case with two large, square light grey buttons, the IX features a large spherical controller called the Joyball. This ball is the size of your hand, and is pivoted in the required direction by pressure rather than by twisting the wrist. Both fire buttons have auto facilities, and there are two LEDs to indicate their status.

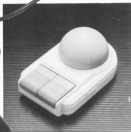
The Quakebot IX series boasts of deliberate operations, precise response fast reaction. It will be interesting to see this revolutionary product when (if) it appears on the UK market.

■ SPECTRAVIDEO'S other unusual controller is the Quakebot VII. This is another form of joystick, small, thumb-operated and practically unbreakable. There's a small, touch-responsive circular control pad, two fire buttons, and two status LEDs. Both fire buttons have auto capability.

There's also the Quakebot IX, a fairly conventional joystick with four buttons on the base, five buttons on the base and stick, and a range of three interchangeable grips, Fighter, Spartan and Blazer, each with different grip designs to suit different types of game. Again, it will be interesting to have a closer look at these when they become available, and see how they measure up to the opposition. ■



Laser



Quakebot IX



The Stick

JOYSTICK	ACCURACY	DURABILITY	EASE OF USE
Mushy Soft Joystick	7 A little hard to achieve diagonals	10 Should last for ever	7 Will take some practice
Keels Speedking	9 Very precise, good at diagonals	8 Seem fair, though casing looks cheap	10 Very comfortable, very straightforward
J. E. Laser	9 Difficult to move precisely	10 Indestructible	6 Tricky to master
The Stick	5-6 Needs lots of practice	9 Should last forever	5-6 Feels good, but takes patience
Ghostek 123	8 Very good, though not as good as microswitch devices	6 Could be more strongly constructed	9 Very acceptable



Quakebot VII

Now FINGER TIP CONTROL IS WITHIN YOUR GRASP.

A totally new design gives instant response to your command movements.

Up to now joysticks of the 'Speeding' quality were priced at £20 and over. The Speeding is microswitch based, and costs only **£12.99**, **£14.99** for BBC & DRAGON machines.

Designed to fit your hand, not the table top, meaning comfort during the longest of games.

GUARANTEED for Twelve Months.

Available for Spectrums 48K and Plus Commodors 64, 128 and Vic 20 Acorn, Electron, Amstrad, BBC and Dragon machines.

Available in left and right handed models.

konix SPEEDING

A Major Breakthrough
in Joystick Design

ONLY £12.99

Trade and export enquiries contact Keith or Wayne on (0495) 711988

Have Computer Products to a leading name of Creative Design/Manufacture Ltd.



- Please indicate: Speeding at £12.99 each
 Right handed please under right handed model
 Computer make left handed
 I enclose cheque/postal order payable to KONIX

Please charge my Amstrad Plus
 Certificate ref of (0495) 711988 to order

Signature _____

Name _____

Address _____

Postcode _____ Tel _____

Send to: Konix Computer Products Ltd, 11 Silvery Hill Dr, Tisbury, Wiltshire NP1 4DZ

COMMODORE PLUS 4 AND C16

CAN YOU MEET THE CHALLENGE OF:-

HIT & MISS

HIT & MISS IS THE CHALLENGE BUT - THE QUESTION IS - CAN YOU MEET IT!

FREE A3 POSTER
FREE PACKAGE &
POSTAGE
NEW - IDEAS IN ACTION
ONLY - FOR PLUS 4/C16

TAPE
£7.99



WARNING - PLAYING

HIT & MISS

COULD SERIOUSLY DAMAGE YOUR
HEALTH, BUT IT CERTAINLY WILL NOT
DAMAGE YOUR WEALTH

"MORE ADDICTIVE THAN
ANY ARCADE GAME, THE
ONLY C16/PLUS 4 SOFTWARE
OFFERING A REAL
CHALLENGE"

Design by Nigel Whitehouse Creative Design Leeds

HIT & MISS DEFINITELY IS A MIND CHALLENGE OF MEGA
PROPORTION THAT ALL YOUR FAMILY AND FRIENDS CAN TAKE
PART IN. FROM SINGLE PLAY TO DOUBLES, IT WILL STRETCH YOUR
MENTAL DEXTERITY TO THE FULL.....

IS IT REMEMBER -

"IT TAKES MORE THAN JUST GUESSEWORK TO
BECOME A GENIUS WITH HIT & MISS"



VENTUREGATE LTD

AVAILABLE AT MOST GOOD SOFTWARE OUTLETS

ORDER YOUR COPY
8001-209050/0101, 11 HAWKWOODS, 41 TORNSHILL, LEEDS, LE11 1AA

NAME (BLOCK LETTERS) _____

ADDRESS _____

COUNTRY _____ POSTCODE _____

PLEASE SEND ME _____ COPIES OF "HIT & MISS" AT
£7.99 COMPLETE WITH A FREE POSTER WITH EVERY COPY

(FREE A3 POSTER AND FREE P & F)

THE 64 SOFTWARE CENTRE

1 Princeton Street, London WC1

01-430 0954

SOFTWARE PRICE LIST — Prices include VAT

d = disk c = cassette r = cartridge

Accounting systems (office use)	
Analgram Systems — Sales Ledger	£175.00
Analgram Systems — Purchase/Nominal Ledger	£175.00
Analgram Systems — Cashbook	£175.00
Gensoft — Cashbook (with nominal analysis)	£34.95
Gensoft — Cashbook (with nominal analysis)	£34.95
Gensoft — Final Accounts	£34.95
Gensoft — Final Accounts	£34.95
Gensoft — Cashbook/VAT/Final Accounts	£49.95
Gensoft — Cashbook/VAT/Final Accounts	£49.95
Studio — Payroll 84	£49.95
Dell — Invoice Generator II	£34.95

Bank Control systems	
Praxisoft — Inventory 84	£19.95
Gensoft — Bank Control	£34.95
Gensoft — Bank Control	£19.95
Analgram — Bank Control	£175.00

Home applications	
Gensoft — Home Accounts	£18.95
Gensoft — Home Accounts	£34.95
Gensoft — Combined Home Pack	£34.95
Gensoft — Combined Home Pack	£34.95
Adamssoft — Checkbook Manager	£19.95

Database Filing Systems	
Polimerizer — Mail Index	£19.95
84 — The Companion	£124.50
Praxisoft — Practice 84	£34.50
Praxisoft — Superbase 84	£34.95
Praxisoft — Superbase Starter	£34.95
Gensoft — Database	£34.95
Gensoft — Database	£19.95
Gensoft — Mailer	£12.95
Gensoft — Mailer	£9.95
Polimerizer — Record Card	£19.95
Dell — Superfile	£19.95
Supersoft — Island Record	£17.95

Spreadsheets	
Handle — Easy Coloursuit	£39.95
Handle — Advanced Coloursuit	£79.95
Praxisoft — Praxifile 1	£49.95
Supersoft — Basicfile 1	£17.95
Supersoft — Basicfile 2	£49.95
Polimerizer — Worksheet	£19.95

Word Processors	
Polimerizer — Paperstar	£39.95
Soft Street Writer	£89.00
Praxisoft — Superpage	£89.95
Supersoft — Word Partner	£19.95
Supersoft — Word Partner	£19.95

Utilities	
Adamssoft — Graphics	£19.95
Adamssoft — Chartpak 84	£24.95
Adamssoft — Success	£12.50
Adamssoft — Graphics Designer	£18.95
84 Samples	£60.00
Access — Mail 5 Fastmail	£34.95
Access — Master Composer	£49.95

Crystal — Zeus 84 Assembler	£39.95
Crystal — Zeus 84 Assembler	£14.95
COM — Disk Alignment Program	£39.95
Keypad and printer	£129.00
Polimerizer — Printer printer	£19.95
Commslogic — Stream Basic	£27.50
Kama — 85' Mail	£47.00
Praxisoft — 84 Center	£19.95
Supersoft — Vector	£34.95
Supersoft — Micro Assembler	£39.95
Supersoft — Screen Monitor	£14.95
Supersoft — Toolset 84	£39.95
Supersoft — Toolset 84	£17.95
Accession — The Designer's Pencil	£17.95
Jetpack compiler	£39.95
Hardware — Soft 84	£54.95
Jetpack Compiler	£14.95
84 — Pascal 84	£39.95
Quest — Machine Lightning	£39.95
Talent — Password	£19.95
Talent — Password	£19.95
Stokes — T241 Flash Kit	£64.95
Spire — Fast load	£49.95
Optimum Printer	£34.95
Broderbund — The Protostar	£44.95
Broderbund — Plotting graphics library 1 or 2	£29.95
Broderbund — The Multi-Shop	£49.95

Simulators	
Flight Simulators	
Micrograph — Solo Flight	£14.95
Software — Flight Simulator II	£49.95
Software — Flight Simulator II	£42.95
Supersoft — Immediate Pilot	£19.95
Supersoft — Immediate Pilot	£19.95
84 — Sky 84	£12.95

All in STOCK NOW — Callers welcome
(Mon-Open including Saturdays)

Mail Order: Cheque or PO — add £2 for items over £20, unless free. Credit cards (Access/Visa) please or write. Immediate despatch.

The 64 Software Centre
1 Princeton Street, London WC1

Please supply the following items:

1..... Qty @ £.....

2..... Qty @ £.....

3..... Qty @ £.....

4..... Qty @ £.....

TOTAL £.....

POSTAGE £.....

TOTAL £.....

Name.....

Via/Access Card No.

Address.....

Date..... Signature.....

AS THE mechanic helps you with the straps on the four-point harness and gives you that confident thumbs up, you start to feel nervous. Sweat drops down the side of your head, cascading in the fall hair helmet.

Suddenly the cockpit starts to feel more like a coffin. Time first time out in a Bah Formula Three racing car. Check neutral — OK. You pull the starter and the engine jumps into life... rev it up a bit (you don't want to stall and embarrass yourself do you?) and slip it into first. Whoops — rather too much wheelspin — but suddenly you're out of the pits heading towards Copse Corner, and in fourth checking over hundred miles per hour plus before you know it. Pass the 180 meter board and throw it into the 90-degree right-hander with the right foot still down. You make it through, so it's up the rise towards Maggotts. Change up and take it flat out. Now you're moving!

Adrenaline soaring...aware that Beckets is nearly upon you. Break late...change down to third, but you're into the corner and you're off line. Desperately you swing the wheel, but you're already on the grass and spinning into the welcoming arms of the catch fence. Only too aware of the fire hazard down

available from Firebird (price £14.95 on tape and £17.95 on disk) and I'm pleased to report it's just about as good as the original...with the addition of the choice of two tracks as standard, the usual Silverstone, plus the mass of Brands Hatch. Most of this here, but first of all let's examine exactly what you get for your money.

Firebird have learnt well from Accuracer that the best way to reverse the psychologically bitter pill of peering near an F1 nose and for a relatively small length of cassette tape is to put it in a big box, along with a reasonable number of manuals and posters. Revs is no exception, but with a program like this one, it's well worth the investment in time and effort to read the book before driving off into the sunset — or more likely the catch fence. You can do this while loading up the lengthy program.

The first thing you are asked for is to choose the track you would like to race/practice on. My advice would be to choose Silverstone to start with — it's got fewer corners and hills, more straight, and is generally easier to learn on. You will soon be asked to choose your playing options...practice, or race. Let's try practice



REVS



Brands Hatch veteran **John Cook** compares Firebird's racing simulation to the real thing, and finds the game just as nerve-wracking

though it's only four-star in the tank, I you struggle with harness and trap out of the cockpit...only to knock over the coffee table. In rare, other members of the family and/or people you need to consider race friends/leg at the keyboard of your Commodore to talk them around Silverstone, while you write to the pits to raid the fridge.

Additive

Crazy? Fascinating? Well, **Revs** gets you like that; certainly it is one of the most challenging and addictive programs you can lightly to come across this Christmas.

Originally written for the BBC B by Geoff Crossland (aka Andrew of that Beeb biggie Antler), **Revs** was rightly huge for Accuracer when the summer, staying in the top three for weeks on end. For a time, however, the obligatory Commodore commission seemed unattractive — after all, the one thing Commodore owners-reminds aren't short of are racing games. **Pitstop II**, **Teknique**, **The Great American Road Race**, **Barling Instruction Set**, the list is almost endless. So why flood an already saturated market with another disk? The secret is that **Revs** is not "a game" with playability as the first design priority. It is first and foremost a simulation of what it is like to control a race tuned Formula Three car and an opportunity to try it out under safe conditions. In fact, everything a budding racing driver could ask for — except maybe a car!

The Commodore version (again written by the venerable Mr Crossland) is now

first shall we starting?

On choosing this option, you are asked for front and rear wing settings. Wing settings on a car? In fact, these are the aeroflats which produce the "downforce" that allows these cars to corner at three figure speeds. (To gauge their effect, try racing with a setting of 0.0 some day). Racing settings themselves vary from person to person. Geoff Crossland recommends 37.50 as a good general purpose setting, while David Hunt uses 24.4. The general rule is, the



higher the setting, the greater the downforce, and therefore the greater the cornering speed. The lower the settings, the higher the straight line speed.

This one with, you find yourself looking out of the cockpit, just on Abbey Curve looking towards the chicane at Woodcote. The controls shown within the car are simple. Control on the panel is the rev counter... vital to keep an eye on this one as the engine produces most power between 5800 and 5900

revs. If you fall below the magic 5800 then you're in the wrong gear! Below and to the left and right of the rev counter are the water temperature and oil pressure gauges. To all intents and purposes, these can be ignored...you'll usually have your mind on much more important things...like staying on the road. The upper half of the steering wheel encompasses the instrument panel — it has a black "raced hand" which moves round its circumference to show how far over you are currently steering. To the right of the steering wheel you'll find the gear lever, showing which gear you have currently engaged. You have a choice of five forward and one reverse. Finally, you are equipped with left and right wing mirrors — very important when racing, but as you have the track to yourself during practice, don't worry about them right now.

Controls

Now you are ready to start to learn how to drive your Formula Three car. Well... almost. First ask yourself that most penetrating of questions...are you a keyboard man or a joystick man? Or a paddle man? Yes, you aren't short of control choices in this game, as various combinations can be chosen (via the function keys) to accommodate the keyboard control (G/Throttle, A/Break, Q/Change up, Ctrl/Change down steering via ']' and '[' keys — my own favourite), keyboard throttle/gear control with steering via the Commodore game-paddle, switched joystick controlling throttle/gear with steering via

Best Time 10:00.0



GAME: *Reno*
MICRO: CME64
PRICE: \$14.95,
\$17.95 disk
SUPPLIER: Firebird

pedals and finally analogue joysticks. As far as I'm concerned, no one is better than any other — use whatever is most comfy for you.

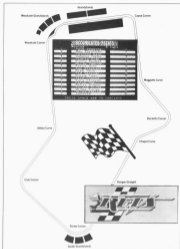
Having got all that sorted out, press the start (T) and wait for the engine to fire. Use the throttle to pick the revs up to 5000 or so and engage first — you'll find yourself moving forward quite fast. Change up to second again and this time keep the revs down to the 4000-5000 range — you're going sightseeing.

Take the car gently round the track, leaving all corners with the greatest of respect, and to get used to the feel of the car and to learn the layout of the track. Once again, careful inspection of the documentation will pay dividends — especially the driving notes written by David Hall. Advance the track's scrolling and unfolding contours of the track. You won't have a chance when you start driving fast!

Being a simulator, just just a game, *Reno* rewards practice and experience more than mind — and talent. But at first you'll find yourself crashing and chiding all over the place. The first time I played *Reno* on the BBC B, it took me half an hour just to get round 'Woodlands'. The matchbook here is perennian.

When you get your Silverstone time down to 1 minute 40 or so, perhaps it's time to try out a bit of racing — Novice class naturally — over five, ten or twenty laps. You will be asked to produce a qualifying time, in order to determine your grid placing. If you choose Amateur or Professional Class, the qualifying times will be that much higher, and the opposition that much fiercer.

This is like practice, but watch out for the other cars trying to qualify at the same time... you are no longer alone. Once you're



qualified (or indeed if, you can start the race as main another driver — this can be another 'you' or any number (up to 16) of Firebirds. You won't be racing directly against them however. You take turns at the keyboard, replacing the same car over again, with the computer adjusting the performances of the opposition to line with the qualifying times. As *Reno* is played in 'real time', an average five lap race will take 7-8 minutes each, so patience is needed for larger groups.

Novice

And so to the ultimate test — the race. If you're playing alone, be warned that the other 16 competitors all have names that are dreadful puns like — Hugh Jangle. Don't underestimate them because of this; they are hard and fast and mean...and although contact with other cars may not be fatal, it will certainly lose you time and so should be avoided at all costs. Racing tips: brake late, accelerate early and you won't go far wrong. Easier said than done.

To win the Novice race, you must be capable of consistently lapping at around

1:18. This requires ferocious concentration, so it is nice to see a convenient pause button (R) on the pad. This makes sure that your best lap times aren't ruined by enforced pit stops — suspension cuts, encyclopaedia salesman, bumper pants, etc.

The big question is, of course, how does it race up against the original? The verdict is, very well indeed — even better than the Elite conversion in fact. Admittedly, BBC veterans will notice that the corners appear just that little more angular, and that the striped kerb along the side of the track flashes by that little bit slower — but BBC owners will never miss what they never had. On the plus side for the B4, the slightly better sound effects, a games of novel control options, a decent pause key and the whole new world of racing that an extra track brings. Brands has been lovingly recreated and take it from me, Paddock down to Graham Hill (and is frighteningly close to reality). In short, *Reno* is still the nearest thing to driving a racing car without risking your neck — highly recommended for co-racers and competitors everywhere. ■

THE 64 SOFTWARE CENTRE

1 Princeton Street, London WC1

01-430 0954

STRATEGIC SIMULATIONS

KNIGHTS OF THE DESERT	d	£17.95
TIGERS IN THE SNOW	d	£17.95
BRIGADSIDES	d	£44.95
BATTLE FOR NORMANDY	d	£17.95
GERMANY 1985	d	£39.95
RDF 1985	d	£44.95
BALTIC 1985	d	£44.95
BREAKTHROUGH IN THE ARDENNES	d	£64.95
OPERATION MARKET GARDEN	d	£64.95
FIELD OF FIRE	d	£44.95
GEOLOGIQUE	d	£44.95
IMPERIUM GALACTICUM	d	£64.95
KAMPFGRUPPE	d	£64.95
MECH BRIGADE	d	£64.95
COLONIAL CONQUEST	d	£44.95
CARRIER FORCE	d	£64.95
RINGSIDE SEAT	d	£44.95
WINGS OF WAR	d	£44.95
50 MISSION CRUSH	d	£44.95
RAILS WEST	d	£49.95
PRESIDENT ELECT	d	£44.95
QUESTRON	d	£49.95
JEWELSTONE WARRIOR	d	£44.95
PHANTASIE	d	£49.95
PROFESSIONAL TOURNAMENT GOLF	d	£44.95
COSMIC BALANCE	d	£44.95
CARTELS & CUTTHROATS	d	£44.95
FIGHTER COMMAND	d	£64.95
BATTALION COMMANDER	d	£44.95
PANZER GRENADEER	d	£44.95
SIX GUN SHOOT OUT	d	£44.95
CANADA SIMULATIONS		
GOLAN FRONT	d	£64.95
FALL GELD	d	£64.95
SSG		
CARRIERS AT WAR	d	£64.95
REACH FOR THE STARS	d	£64.95
AVALON HILL		
LEGIONAIRE	d	£34.95
DREADNOUGHTS	d	£34.95
TSUSHIMA	d	£34.95
INFOCOM		
ENCHANTER	d	£49.95
SORCERER	d	£59.95
CUTTHROATS	d	£39.95
SEASTALKER	d	£39.95
HITCHHIKERS GUIDE TO THE GALAXY	d	£39.95
THE WITNESS	d	£44.95
DEADLINE	d	£11.99
ZORK I	d	£11.99
ZORK II	d	£11.99
SUSPENDED	d	£11.99
WISHBRINGER	d	£39.95
DKG - CLASH OF WILLS	d	£49.95
MICROPROSE - SILENT SERVICE	d	£44.95
SIERRA - ULTIMA IV	d	£64.95

ALL IN STOCK NOW!

Prices incl. VAT. Add £3.00 p&g per item

A holiday in the sun

... Ken Matthews doesn't want one, if it's anything like the horrors of *Terramorphino*. And he could do without the adolescent traumas of *Adrian Mole*, too ...

FIRST UP this month is the *Secret Diary of Adrian Mole* out of the Mosaic stable and cited by Level 9 around the book from the *Terramorphino*.

The pubescent problems of the game's hero have been on the box (no pun intended) for a while now so some of the situations will be familiar to most players, but just in case...

The book/film/game revolves around the private struggles of a spotty adolescent, desperate to be recognised as an individual and poet, with his family and friends. The game is rather a departure for Level 9 since it is not a true adventure game at all. There are no objects to collect or locations to visit, just a year's diary as written by the Mole. Every day or two, as the events of Adrian's life swirl before you, you will be offered a list of the actions he can take to react to a given situation. You simply make a choice of our hero and read the reactions. Every now and again a score will appear to mark you progress towards urban fame.

The game has turn graphics but this is really a set of pictures that change every so

often to give you something to look at.

The diary in the game is often very funny and for some quite surprising to Ms. Terramorphino has a remarkable insight into the private world of a teenage boy. Because of the different responses possible the game contains over 2000 of text and so leads from tape in five different parts, carrying your score over the next section. The game can be very long so a save routine is included.

So, though Adrian is thoughtfully laid out and programmed and great fun to play — adventure game it isn't — in my mind anyway, it doesn't seem to generate the compulsion to do well and complete the game that marks Level 9's regular adventure series.

Still I'm sure arid Mole fans will make the game do well if the name of Level 9 alone doesn't — they'll find it a lot less damaging than continually answering their 'Things'!!

Holidays

On now to a real treat, new from Melbourne House, *Terramorphino*.

The idea of this one is simply to gather your family and holiday gear and survive the perils of a typical package trip to the Home of the Bull-Pup.

I've only found time to get about halfway through this one but loved every minute of this witty, stylish and original plot.

The game is clearly *Quill* plus *Illustrator* and shows just what can be achieved with *Quill*'s seemingly timeless utility. It is a

fitting sequel to *Hungover* — at least for those who have attained 1071.

The game starts with a race against time to gather suitcase, family and the seemingly endless hats and pieces you'll really be searching for as the taxi pulled up outside.

The atmosphere is built cleverly with the minimum of time to get everything done and quite a few pitfalls that could end your holiday before it's really begun — wretched steps and dark stairs to mention but two.

On reaching the over-hated Costa Bomb life becomes no easier as you simply MUST



Saturday April 4th 4th MEM ROOM

Started painting as soon as I got home from the DIY centre. It looks good, except where Roddy and Big Lars show through the black paint. Looks like it'll need two coats. I wash the brush thoroughly in the sink. A good craftsman looks after his tools!

do all these touristy things and suffer the consequences — which are often more fatal than running to the bus only to discover the no-poo tablets are safe at home in the bathroom cabinet!

Well, throughout the game it can be fun to look at the excellent graphics that appear dotted round this page!

I won't spoil it by giving too much more away — just with some of your Christmas loot and play it for yourselves.

Next month I definitely will be looking at *The Worm in Paradise* and Infocom's latest release *Whitebridge* — what else? Well, I've found three rumours about a game called *Trends and Icons*!!

Finally, one warning among you might get a treat to since over the last few weeks Greenwood's STEVE BISHOP and I have been looking at what's around and found two book-buyers about to appear from US Gold — more soon... ■

MINTER MANIA

Jeff goes 80000 crazy with the Amiga, dives into the 128 and freaks out to the music of the SID chip...

WELL, I GUESS it had to happen. I know it eventually would, but it's the sort of thing you don't actually believe in until it finally occurs...but it's finally happened. Striking down the end of my Liek, just around the corner from the ST, is a new Commodore system...and we're not talking 128's here, oh no. This little beauty's called AMIGA...

Testcard

At present I don't have that many demos for it if I should be picking up the classic demos, bouncing ball etc. tomorrow, when I visit a mate who's had his Amiga longer than I've had mine, but it still blows brains out with the few simple demos that come with it. Basically, there are 3: TestCard shows all 4096 colours at once, Clock, Rows, Lines and Dots. What I usually do to freak people out a bit is get up a Lines window, filling the whole screen. People look, and are impressed. Then I pop the Lines window to the back of the screen and show that the Amiga has, at the same time, been running 4 clocks of varying Dali-esque proportions, 3 windows of filled boxes, a couple of pixel plot windows, and another smaller Lines one. All at the same time. Then I shut down all these other tasks, and as I do so the original large Lines window gets revealed, and they get to see how fast the Amiga can really draw lines. At this point the observers just stand and stare quietly under their breath. (And remember, those are just the big standard, simple, boring demos that come with it. Wait'll I get some of the real mindblowers...)



I've also got the C language and an Assembler, but at present I've not been too deep into either, apart from a few little C prog. tests and tests. I haven't. I've got Atari 520ST Colourspace to finish first, then a C64 game to write. Then I can dive into the Amiga. I know that if I started now it'll be fairly additive and I'd never get anything done at all...but I'm gonna enjoy Amiga. It could've been made for my Lightwave project. The Atari version is already sufficiently far advanced to blow minds, and when the Amiga version gets

underway...wow!! They'll make it illegal, just wait and see...

It's been quite surprising, too, to see the number of people who actually are going to get an Amiga when it's available here. They range from people who've started saving now and won't stop until the device is there, to groups of 3 or 4 C64 owners who intend to club together for a communal Amiga.

One or two interesting things about Amiga, too...apparently the chips were originally designed for a 5000 games machine which never materialised. Then it was going to be made into a machine called Amiga Lorraine, which was going to have 128s and a single standard sized floppy, and possibly be compatible with the IBM PC (r/derber). Then (apparently) Atari commissioned Amiga to develop the chips for use in the next Atari machine, but Amiga got into financial difficulties and Commodore stepped in and bought the company. The designer of the amazing Amiga custom chips is a guy called Jay Miner, who also designed the chips of the Atari 400/500 series computers, and the Atari 512B video game machine. Consequently the Amiga hardware is very, very game-oriented (which is great news for the likes of you and me). Lots of examples in the Amiga hardware manual refer to game-type situations and explain stuff in terms of diagrams of task games! Believe me, you are going to play the best games of you lives on this machine...OK, it can do business stuff, it's being pushed as a business computer, but remember this: Amiga's hardware was designed to play games. So there.

Anyway, away from the flabby 80000 world and back to reality. I've picked up a couple of other Commodore bits and pieces, namely a C128 and a little device called the Final Cartridge. The 128 seems pretty good; there isn't one C64 game it won't run, and the keyboard is really top-notch. 128 mode is pretty good if you're into BASIC programming, with a load of graphic commands, sound commands, and sprite commands all available and easy to use. Disk commands are available too, and with the 128 drive they're nice 'n' fast too. Provided I can get a decent Assembler to work in 128 mode, I'd probably use mine as a development system running alongside a standard C64 when I get my next game together.

Bankwreck

The Final Cartridge was given me at the Commodore Horizons show, and hasn't left the back of my '84 since. It gives lots of goodies like 3 x disk turbo, 10 x tape turbo, nifty ME monitor, Commodore printer dumps and the like all available from BASIC, and takes up no user RAM due to some nifty bankwrecking. It agrees with most



commercial stuff, and if there's something it doesn't get on with you can always turn it off (there's a switch provided) so you don't even have to take it out of the cartridge slot...which brings me to my only complaint about it: due to some error of mine, it's damn near impossible to get it into your cartridge slot! It just doesn't seem to fit! Still, once in the slot you'll probably never want to shift it again anyway. Mine's staying put; it's just too useful, and I couldn't bear to go back to those old disk load speeds again!

Puff-puff

I had my own blown off recently, by listening to a disk of Rob Hubbard's music on the C64. That's the chap who did the music on *Money on the Run* and *Crazy Command*, and his demo disk was well impressive. Put it thru your stereo and it'll by your squeaks. Truly brilliant. There's this great little tune on one of the demos, and for a laugh I put the tune thru my stereo and then loaded Linn on another machine. The fantastic twin music and the cutie puff-puff-twin graphics together were just wow. I think I might just get this tinny tin to do some stuff for my next game cos he's just awesome when it comes to music...

Anyway I better finish now...I shall keep you informed of progress on the Amiga front, and there are a few C64 titles I want a look at too. I've seen screen shots of Durrell's *Critical Mass* and if the show do the game any justice it looks like being my kind of shoot-'em-up. From what I've seen it looks a bit *Zaxxon*-ish but scrolling in all directions, with a lot of bullets and a shadow under the ship. I do like a star shadow under the ship. I'd like to log on to Computer now...tata till next time! ■

Electrodisco 64

Two of the latest music software packages examined by Mark Jenkins
— Orpheus' *Electrosound synth and composer*, and the best piece of 64 music software yet
— Firebird's *The Music System*

THE LEAPFROG to which the 64's sound capabilities can be attributed are a source of constant amazement, and these two packages are amongst the most impressive yet released for the machine. While both have a compositional element, Firebird's *The Music System* (TMS) boasts a more complex, musically notated display and the *Advanced Music System* (AMS) has the ability to control professional synthesizers using a MIDI interface. Let's look at the simpler, tape or disk based *Electrosound* 64 first.

Electrosound 64 is designed to work with the Commodore Music Mixer, an essential purchase for music-oriented 64 owners which consist of a plastic music keyboard designed to clip over the top two rows of the computer's keys. While the Music Maker does come with its own software, *Electrosound* 64 is a distinct improvement on this.

The packed and complex main screen display includes a diagram of the music keyboard, a grid-like music composition layout, and a list of preset sounds (and other para-

some of the sounds give the distinct impression of more than three voices being available simultaneously! If you don't want to create your own sounds, there are five voice files such as ten sounds including Lead Synth, Harpsichord, Chimes, Piano, Brass, Effects and Strings in the package.

To gain some idea of the package's compositional facilities, you can load an impressive demo which plays several classical pieces and some more modern hits. The

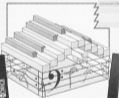
Music Maker keyboard switch in the files, select new sounds, start and stop sequences and allow you to load new patterns from tape or disk. The *Value Grid* in the centre of the screen allows you to change individual parameters of sounds using the Function keys; many parameters including Ring Modulation are accessible.

Electrosound 64 can record 20 sequences and 5 tracks for composition of very lengthy pieces, but you are limited to entering notes in step time and can't record notes "free". A little application is going to be needed before you can come up with pieces as impressive as the demos, not because the system is difficult to use but because it's inevitably time-consuming.

However, the manual is as helpful as anyone could desire, with complete tables of preset sounds, sound parameters, control functions and methods of modulation.

Now, stand in front of your television, hold a little bit of plastic in front of the screen, wave your hand slowly (wavy lines appear from it, apart from the 64

Electrosound 64



mers. You can begin by playing sounds manually, either polyphonically (up to three notes at a time) or monophonically for more powerful sounds, with all notes played showing as moving dots on the keyboard display. Through a hi-fi amplifier (Orpheus boasts sides of the Commodore Programmer's Reference Manual by failing to include a diagram of the output connections), the preset sounds are quite spectacular — by far the most synthesizer-like I've heard from a 64 package.

It's tempting to think that Orpheus have written additional modulation generators and other facilities into the software — it's certainly powerful enough for them to have written the music for their own games such as "The Young One" using it — because

ornamentation on some of these pieces is quite stunning, as are the changes of tempo and time signatures which can be programmed as part of each sequence.

Editing pieces is simplicity itself — using the cursor keys you can step to any voice and column in the grid display and punch in new notes on the keyboard. The keyboard display also functions while sequences are playing back, which can be very educational in composition terms, and there are 24 preset pre-variation sounds which can be inserted between notes on any of the three channels to give the impression of three voices AND a drum kit playing.

A selection of keys not covered by the

of plastic with one eye and type whatever you see into the computer. After you've done this half-a-dozen times you may succeed in loading

Firebird's *The Music System*, which is so well protected by an advanced security device called *Loadlock* that even hard-biters reviewers have difficulty loading it.

It's worth the effort though. The Music System (TMS) was originally designed for the BBC Micro by The System for Island Logic, and the 64 version has been delayed while a distribution deal with Firebird has been negotiated. In the meantime several new facilities have been added, notably the ability to interface to MIDI units found on the *Advanced* version (AMS).

The basic operational method remains similar to the BBC version, however, a Macintosh-inspired main screen offers an

icons representing the Keyboard, Linker, Synthesizer, Editor, MIDI and Printer options, and the icon system is retained throughout the program, sometimes at the expense of its compatibility rather than its advantage.



Music can be entered live in real time (from a Music Maker keyboard if you like) or edited in step time with full musical notation on a standard staff. Sounds can be created on the Synthesizer page with the help of an Envelope display, and saved to or loaded from disk into any song.

The Linker is simply a page which allows you to list files consecutively to create long patterns, and like the Electronicallist kit package, the AMS is capable of very lengthy compositions. The difference is that the AMS can print them out too, but how many three-part compositions are worth printing is open to question.

In compositional mode, the AMS works like a multi-track tape recorder, with Rewind, Fast Forward, Stop and Play controls and a three-bar display showing how much space is available on each of the three tracks. If you convert files to MIDI use you'll find another five tracks available, and these can be played by an external synth.

The AMS is obviously a very powerful package, but some of the extras included don't do it full justice. It's well suited to the advanced musician interested in music notation and printing facilities, but Electronicallist 64 is cheaper and in some way more fun.

On the whole, though, there are two outstanding packages which only go to confirm the CMA's position at the top of the league in micro music. ■

COMMODORE
64/128K

ADVANCED
THE MUSIC SYSTEM
USER MANUAL



- **ELECTRO SOUND 64:** £14.95 (tape) £19.95 (disk) Opticon Ltd, The Smiths, Unit 1, Church Farm, Hadley St George, Nr. Sandy, Beds. Tel: 0757 70421/30.
- **THE MUSIC SYSTEM:** £14.95 (tape) £17.95 (disk) ■ **THE ADVANCED MUSIC SYSTEM:** £29.95 (disk) Firebird Software, Wellington House, Upper St Martin's Lane, London WC2H 9DL. Tel: 01-379 6755/5626.

RAINBIRD

THE MUSIC SYSTEM will be marketed by Firebird under the new Rainbird label. Headed by Tony Rainbird, the new section is part of Bloccom's New Information Services division. Rainbird will specialise in state-of-the-art packages including strategy games, applications packages, arcade games and simulations.

Because of the complexity of Rainbird products, not all of them will be available on cassette. To exploit the potential of sophisticated disk-based products, Firebird Licences Inc. will be marketing the products in the USA.

Forthcoming releases include a 64 version of *The Art of War*, a sophisticated drawing program so far available only for the Sinclair Spectrum; and *Starblades*, a vector graphics



Tony Rainbird

vector simulator for the Atari 520-ST, and eventually the Commodore Amiga.

The Music System, first previewed in Commodore Hostages almost six months ago, will be the first Rainbird product. The Music System can be obtained on cassette at £14.95, or disk at £17.95. Many users will want to upgrade later to the Advanced Music System, which includes the MIDI and Printer utilities. Rainbird will offer the upgrade for £25 plus the original cassette or disk.

Plans for promotion of the Advanced Music System include a tie-up with electronic fanzine *News 17*. The ex-Human League technomancers will be converting some of their best-known hits, such as "Crazy for the Whistle of Industry" and updating them available on disk in Advanced Music System format. More news as we hear it.

**LONDON'S LARGEST DISPLAY OF COMPUTERS MONITORS
COMPUTERS AND PERIPHERALS**

DON'T TAKE A CHANCE

—COMPARE BEFORE YOU BUY

**OVER 40
PRINTERS ON
DISPLAY — MOST ON
DEMONSTRATION**

HI-VOLTAGE

London's Largest Commodore Dealer

CBM 64 1541 DISK DRIVE ULTRATEX II GAME SUPER ZAXXON GAME EASISCRIP/WP	1541 DISK DRIVE MPS 801 PRINTER EASISCRIP WORD PROCESSOR FUTURE FINANCE & 8 GAMES	1541 DISK DRIVE MPS 803 PRINTER EASISCRIP WORD PROCESSOR FUTURE FINANCE & 8 GAMES	NEW C128 B COMPUTER WITH BUILT-IN 1571 DOUBLE SIDED DISK DRIVE
£299.95	£179.95	£199.95	£489.95
C128 COMPUTER 1570 DISK DRIVE DPG1101 DARTWHEEL SCRIPT WP/PHILIPS 7502 MON	CBM 64 COMPUTER 1541 DISK DRIVE DPG1101 DARTWHEEL PRINTER EASISCRIP & 8 GAMES	CBM 64 COMPUTER 1541 DISK DRIVE MPS801 PRINTER EASISCRIP WORD PROCESSOR & 8 GAMES	CBM 64 CHRISTMAS COMPAGNIUM INC MUSIC MAKER, DESIGNERS PENCIL, ADMAN MOLE
£779.95	£479.95	£359.95	£189.95

OPEN MONDAY-SATURDAY 9 AM-6 PM

OPEN MONDAY-SATURDAY 9 AM-6 PM

C128 Computer	£399.95
1570 Disk Drive	£184.95
1400C Plus Monitor	£189.95
1900M Green Screen Monitor	£29.95
C64 Computer	£149.95
1541 Disk Drive	£139.95
C204 Cassette	£37.95
1701 Colour Monitor	£189.95
MPS 801 Dot Matrix Printer	£89.95
MPS 803 Dot Matrix Printer	£99.95
DPG 1701 Datasheet Printer	£189.95
MPS 801 Colour Printer	£199.95
Modem	£89.95
EasyScript Word Processor & 8 Games	£89.95
Future Finance Business Program (Disk)	£39.95

CBM COMPATIBLE PRINTERS

Star-80100 NLG	£249.95
Sekkohe SP100DVC NLG	£249.95
Brother H49C	£89.95

PRINTERS COMPATIBLE WITH EXTRA INTERFACE

Copier L280 NLG no internal CBM I/F	£399.95
Kaga K490 NLG no internal CBM I/F	£379.95
Brother H475 Datasheet	£369.95
Halk C264 I/O Contronics I/F	£89.95

JOYSTICKS

Quickshot II	£9.95
Wico Jet Handle	£27.95
Wico Superthrottle	£29.95
Competition Formula II	£79.95

Wide range of software for personal sellers.
Many also used sites for CBM 64, Plus 4, C128, VC 20, C128

SUPERDISKS Prices per box of ten or 10!

	5000	3000	0889P1	0887P1
5 1/4" 5 1/4"	49.00	40.00	39.95	39.95
5 1/4" 3 1/2"	£79.95	£77.95	£79.95	£79.95
5 1/4" 5 1/4" 5 1/4"	£74.95	£79.95	£79.95	£79.95
5 1/4" 5 1/4" 5 1/4"	£79.95	£79.95	£79.95	£79.95
5 1/4" 5 1/4" 5 1/4"	£79.95	£79.95	-	£79.95
5 1/4" 5 1/4" 5 1/4"	£27.50	£27.50	-	£29.95

Apply 75p per 100 per order of Disk or Ribbon

PRINTER RIBBONS (E-c-MAT Prices)

3 Pin		4 Pin		5 Pin	
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95
IBM	£14.95	IBM	£14.95	IBM	£14.95

All equipment fully guaranteed — Credit terms available

Mail Order + Export + Trade
Hot Line Phone 01-888 8362


 Delivery by Express/Drop/Post or 1st class 1st/2nd class
 Delivery by 1st/2nd class/Express/Drop/Post or 1st/2nd class

Send off or order by direct debit/credit transfer
 Cheques by Post (UK only) or by hand
 Delivery by Express/Drop/Post or 1st class 1st/2nd class

Or via our New Year order on 0400-20-1000-1000

ALSO VAST RANGE OF DISK DRIVES, JOYSTICKS, DISK BOXES, INTERFACES, SHEETFEEDERS, ET

HI-VOLTAGE 53-59 High Street, Craydon, Surrey CR0 1DD.

Prices correct as copy date. Subject to change without notice due to currency fluctuations etc. E & C.I.

The last and final?

The Final Cartridge is the latest add-on operating system for the 64 — Alan Hayesman runs through its facilities, and asks whether it's the ultimate peripheral!

TWO months ago I purchased a 'Final Cartridge' from H & P Computers. So hard to describe this product as a 'cartridge' is disconcerting. Although it is fitted easily into the computer (just like a conventional cartridge, once plugged in what you are actually getting is a new operating system that controls the computer from the outside. This exciting



advertisement now opens up all sorts of new horizons, but for the moment I will concentrate on the immediate possibilities.

The built-in tool kit gives most of the things expected from a first rate tool kit program, plus a lot more.

AUTO: This gives automatic line numbering when writing a BASIC program by writing row parameters, i.e. Auto 100, 10 will give you line numbers starting at 100 and continues increasing in multiples of 10 steps. By pressing carriage return after a BASIC line you will automatically reenter your next line number.

DEL: Deletes all lines from your program as necessary just by giving the line numbers. I.e. DEL 10-100 will delete all program lines from 10-100, a definite improvement from the time-consuming one line at a time procedure.

NEW: Recovers a BASIC program after RESET or the NEW command. This is a boon for those of us with untidy memories of opening countless hours typing in that long program, entering the word NEW and then forgetting to SAVE.

RENUM: Renumbers a BASIC program at an incredible speed by just entering two parameters. By entering RENUM 100,10 it will renumber a BASIC program starting at 100 increasing in steps of 10. All GOTOs and GOSUBs are taken care of. When used in conjunction with another facility explained later on this becomes a very useful command.

FIND: A very useful utility for finding a string or variable in a long program. To find all the lines that contain AS just type FIND AS and the computer will list all program lines containing the variable AS on the screen. Likewise to find a line with a string "Press any

key to continue" just type FIND "Press any key to continue" and any line with that string in it will appear as if by magic.

HELP: This will find the incorrect lines in a BASIC program and list them ready for correction.

APPEND: Merges one BASIC program onto the end of another

without disturbing the line numbers. This is where the RENUM also comes into play. All that is necessary is to APPEND your programs together and RENUM them.

The 'Final Cartridge' contains a very powerful and modified DOS that enables the 1541 disk drive to behave like a very satisfactory machine.

CATALOG: This lists the disk directory without disturbing the program in the memory. Pressing the CTRL key stops the listing; releasing the CTRL key allows the listing to continue. How this function will speed up loading will be explained later.

DAPPEND: the same as APPEND but this time from disk.

DISK: Reads the error channel.

LOAD: This will load programs from disk at SIX times the normal speed. It should load all programs without difficulty. As usual there is always the exception to the rule and those that will not load at that speed will load at normal speed to disk. However, fortunately these are very few. For example the Superbase disk did cause some people problems with the loader not being the first program on the disk, but moving the cursor to the required program the complete disk will load.

DISK2: This saves programs SIX times the normal speed to disk. This will also work with any program.

DISK3P: This will verify a program on disk with a program currently in memory.

LIST: This will LIST a BASIC program and will remove any LIST protection that may have been inserted into the program.

The function keys also provide pre-programmed facilities: F1: LIST%; MONITOR%; F2: RUN; F3: OFF; F5: DIAGN; F6: DRAW%; F7: CATALOG; F8: DISK COMMANDS — i.e. F8 plus return multi-enters channel. F8 plus NumLock always a disk.

I hope all you tape users have not given up hope. You have not been abandoned. The 'Final Cartridge' will program, record and files

can be SAVED and LOADED TEN times faster than usual by using the built in fast LOAD and SAVE routines.

For machine-code programmers there is a high quality machine-code monitor using most of the commands found in the standard Commodore monitor. As with the previous facilities this does not need to be LOADED and is summoned by pressing the F2 function key. Another convenience of this monitor is the ability to page out the BASIC and Kernel ROMs so that the whole memory of the program can be used.

The cartridge is also fitted with a reset switch. By pressing reset and the space bar, and the reset and "Q" a 'non-resistant' can be reset. By pressing reset and RETURN/STOP a program can be reset without disturbing it.

Finally, the Final Cartridge includes full Centronics printer interface software allowing you to use printers such as Epsons with a suitable connection cable. You can FORCE the printer with various control codes to produce horizontal, inverse or condensed text, depending on its abilities, and produce bitmaps using the full set of CBM graphic symbols.

It's also possible to produce high resolution



Epson 2200 does screen dumps

screen dumps, by pressing the reset switch while holding down the CTRL key, selecting the screen display you wish to print out using the function keys, and pressing F3. Note that you cannot produce printouts of sprites, since these are not held in the 16-bit screen memory.

I would say that the last two months using this cartridge has given my 64 a new lease of life. I consider it to be good value for money which will arrive documentation, something which is very rare for this type of product.

Hardware: The Final Cartridge

Model 64

Supplier: H&P Computers, 9 Fern-
leaze Walk, Witham, Essex
Price: £28.00
Continence printer cable, £5.00.

OF MICE & PENS

Some of the latest artistic add-ons for the 64 reviewed by John



MS-2000 MOUSE

THE WIGMORE MS-2000 mouse is one of the best pieces of Commodore-compatible hardware to appear this year. Engineered to a high standard, and supplied with powerful software, it makes some previous attempts to design a Mouse for the 64 look sad.

The sleek, modern styling to the MS-2000 is complemented by its advanced internal design. Like other similar systems, it operates by translating the movements of a rolling ball housed in the base into digital form, and representing them on the 64's screen using a moving "cursor". In this case, the moving ball is rubber coated, which makes it smooth to use and not prone to slipping. The two-clicker buttons on the head of the mouse have a positive action, and the size of the mouse is such that it is very comfortable in the hand.

The software is supplied on cassette, and all storage of designs is made to tape too. Wigmore plus a ROM version of the software, and will probably offer an inexpensive disk update, and routines incorporating alternative test fonts on disk, at a later date.

The command icons appear at the bottom of the screen. All the usual drawing features are included. You can, for instance, select a "fill pattern" from a rolling sequence of

31 different choices, and "paste" in this pattern. You can choose any of the 64's sixteen colours for the drawing colour, or for the cursor. Straight lines are drawn by selecting the Line icon; moving the cursor to the start point and depressing the mouse button then moving to the end point of the line and releasing. All the drawing options are remarkably fast and smooth: freehand lines, dotted lines, boxes and circles open or filled, and "spray" patterns are quickly and efficiently built up. Extra facilities include a "zoom", in which a box is defined and enlarged so that you can retouch your pictures to great accuracy; pencil thickness, to adjust the width of the drawing line; mirror image, to reflect part of the drawing along a ver-



tical line; fill, which is quick and efficient; background colour change; reverse left/right or up/down scroll, in which the whole picture can be moved up or down, an amazing effect; a copy facility for any boxed area, useful for creating repeating patterns; and printers to MPS-801, MPS-802 or Vic 1215.

The resolution of the MS-2000 is 100 points to the inch, achieved by using an optical encoding system rather than the mechanical systems of other machines.

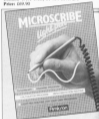
Overall it is certainly the best mouse for the 64 so far, combining high standards of engineering with very clean, efficient and creative software. I would recommend it to the 64 user, and hope to see more software which will make the most of this excellent device.

Hardware: MS-2000 Mouse

Mouse 64, 128 or 64 track

Supplier: Wigmore Systems, 32 Savile Row, London W1X 1AG, 01-354 9771/2/3

Price: 109.95

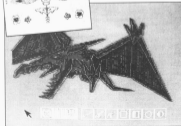


MICROSCRIBE LIGHTPEN

AMICONS' Microscribe light pen is a whole new development in the varied history of these under-rated peripherals. The Microscribe is the first 64 light pen to incorporate sophisticated technology, good construction and good in-rem design software.



The obvious advantage of a light-pen over a mouse is that it is cheaper to manufacture, and more straightforward to use (in theory). In practice, although lightpens for the Commodore computers have always been available, poor manufacture, ill-planned software and lack of support has made them impractical. With the Microscribe, the days of wobbly cursors and user-unfriendly software have gone.



& PENS

by graphics wizard Derek Lawson

MAGIC MOUSE

THE MAGIC MOUSE is being distributed by a number of dealers, the latest being Micro Media. It's a good basic computer, clearly designed to introduce computer users to the concept of Windows/Icons/Mouse software at a reasonable price.

The Magic Mouse features three control buttons, in a case larger and less easy to handle than the MS-2000. The rolling ball mechanism is mechanical rather than electro-optical, but works acceptably.



The Hi-Res graphic designer uses all sixteen colours on a bit-mapped screen, at a resolution of 650 x 300 pixels. A useful extra is that all the IBM graphic characters and letters can be incorporated into your designs.

The command function page is completely separate to the drawing page. This has advantages, in that the drawing area is larger, and disadvantages, in that all the options are not simultaneously visible.

The right-hand buttons of the Magic Mouse is used to select options such as Draw, Line, Fill, Box, Circle, Ray, Spray, and so on. Two useful extra functions are Vertical, which enables vertical lines to be drawn easily by disabling horizontal mouse movement, and Horizontal, which disables vertical movement. All load and save functions default to disk, and persistent is possible through the user port using Ceramics pointers.

The Sprite Design program enables you to design single — or multi-colour sprites on a design grid, of 24 x 21 characters. It's possible to use all the various 64 sprite options such as vertical or horizontal expansion, reversing pixel states, moving sprite pointers, and so on.



The Icon Designer is a similar system which enables you to define UDOS's which can be incorporated into your own Basic programs.

The Mouse Control program allows you programs to be interfaced to the interrupt-driven control routines, and in combination with the Icon Designer this offers the possibility of writing your own Windows/Icons/Mouse programs. At less £50, the Magic Mouse hardware may not be as impressive as the MS-2000, but the selection of software offered may well convince some potential purchaser that it is an attractive option.

Hardware: Magic Mouse

Micro 64, £25 in 64 mode
Supplier: Micro Media, Rydal Mount, Rydal Mount, Baker Street, Potter's Bar, Herts, HX6 2BP, 0761-52488
Price: £29.95

Hardware: Microscribe lightpen

Micro 64, £25 in 64 mode
Supplier: Amlogic, 62-64 Queen's Road, Reading, Berks, RG2 4BP, 0734 508813
Price: £29.95

CADMASTER LIGHTPEN

THE TROJAN CADMaster Lightpen is the latest in a series of developments from this company, and like the Microscribe uses sixteen colours and three "lines" to give designs of pixel accuracy.

CADMaster is controlled using an option screen listing the various commands, a drawing screen, and various control keys.

The option screen shows the current command highlighted. The first row of options are concerned with line types, including Thin, Thick, Dotted, and various types of Quill, in which the line is thicker to the X direction than the Y direction, giving a crenellated effect.

Geometric options include Box, Ray, Line, Triangle, Circle, and so on; and other drawing options include Freehand, Fill, Text, Brush, Copy, and Border, Background and Cursor colours.

The CadMaster software interacts well with the keyboard of the computer to adjust drawing to pixel accuracy. This is easier to achieve with a mouse, but if you have more patience the CadMaster can give equally good results. The software is available on disk for a small extra charge.

Hardware: Cad Master Lightpen

Micro 64, £25 in 64 mode
Supplier: Trojan Products, 106, Driffield, Havant, Hants, SA1 7FF, 0703 265491
Price: £19.95



The Microscribe has a stainless steel barrel with a sensor switch on the nose which is pressed against the screen to register a command. Like a mouse, this enables the user to dispense with keyboard operation altogether.

The Microscribe software package comes on cassette, but — and this reflects well on Amlogic — there is an option to dump this software to disk. Once loaded, the first thing you will notice is that the software interacts so well with the hardware that the cursor reflects the movement of the pen accurately even when it is up to two inches away from the screen. This contrasts strongly with the performance of some lightpens, where the cursor flickers madly even when all the parameters have been adjusted to the optimum settings.

The CADWIN Icon Drawing software features six main icons, each of which when "hit" brings up another menu of options.

Options include Freehand drawing, either continuously or only when the pen is pressed against the screen; solid or wire frame polygons of up to nine sides, or circles; brush painting, using user-definable shapes; lines, arcs, borders, zoom, erase, storage to tape or disk, typing in characters, and so on.

Included on the Microscribe disk are Percol, an ingenious on-screen calculator display which allow you to do your sums without resorting to taking off your shoes and socks; and Percolite, which allows you to overcome some of the problems of using a lightpen in Basic, and design your own screen career.

Sounds great for Christmas

The incredible
Echo Musical Synthesizer
for the BBC B and Commodore 64

Save £50
Manufacturer's RRP £99.95
OUR PRICE ONLY
£49.95
BBC Model B, B Plus and
Commodore 64 C6400
or other variants



BBC Model B and B Plus Music ROM versions also available £59.95

Highly acclaimed by leading Computer magazines, the Echo synthesizer is in a class of its own. Ideal for beginners and experienced musicians alike of all ages, the Echo imitates a wide range of instruments.

SAVE £50

Designed to sell at nearly £100, bulk purchase allows us to offer it at the incredible price of only £49.95.

Just look at these features:

- BBC Model B, B Plus and Commodore 64 cassette or disc versions and BBC Model B and B Plus ROM versions available.
- Complete with Depressure software on disc or cassette - a powerful but easy to use package allows you to imitate a wide range of instruments and percussion effects.
- Synthesizer mode gives complete control of voice envelopes so you can design your own sounds.

- Record and playback facility*
- Complete with connecting lead for BBC or Commodore (cables not included)
- Great educational value.
- Full 12 month warranty.
- Synthesizer mode allows 1 in 4 duty for different.
- Optional speaker/amplifier available for BBC versions.

Enhanced Speaker/Amplifier

BBC version only provides an impressive 8-watt output to its big 8" twin cone speaker, complete with volume and tone controls, making powered.

Only £29.95



Order Form:

Name:

Address:

Tel:

Enclose Cheque, PO or
PA (P) £10

Send your order to, or phone with your card to:

Gemini Marketing Ltd.
Unit 20, Olsson Way Trading Estate,
Ramsay, Devon PL26 4BN
Tel: 0359 662 915



Please send me:

Cassette Versions

- Echo Music Synthesizer for BBC B/B+ £49.95
- Echo Music Synthesizer for BBC B Plus/B+ £49.95
- Echo Music Synthesizer for Commodore 64/B £49.95

Disc Versions

- Echo Music Synthesizer for BBC B/B+ £49.95
- Echo Music Synthesizer for BBC B Plus/B+ £49.95
- Echo Music Synthesizer for Commodore 64/B £49.95

Music ROM Versions

- Echo Music Synthesizer for BBC B/B+ £49.95
- Echo Music Synthesizer for BBC B Plus/B+ £49.95
- Enhanced Speaker/Amplifier for BBC B/B+ £29.95

Fifth-generation language

John Cochrane investigates LPA's 64 version of the impressive Micro-Prolog language

DID YOU know that the command argument is what would be the single argument if the command name were used as a unary relation in a program? I didn't, at least not before I was asked to look into LPA micro-PROLOG by your kindly Horizons Editor. Come to think of it I'm still not at all sure if I know whatever it was that I started off by writing anyway. Confused? That's what comes from trying to learn about micro-PROLOG too quickly.

Logic Programming Associates has already done a pretty good job of encouraging you to spend a reasonable amount of time learning about their new software package, by taking the unusual step of not only providing a full 190-page reference manual but giving you a 180-page book as well, as a general introduction to PROLOG. There's just no way that you can rub straight into programming with that lot to read (unless you happen to be working for Connorsley Horizons of course).

Both the book and the reference manual are, in the main, well written and add greatly to the value of the LPA micro-PROLOG package. One minor problem for those users is that the reference manual has been produced for use with G64, Acorn BBC, and Apple versions of the program. There are machine-specific appendices but some problems have crept into the main text. For example, the manual says "LOAD SIMPLE" when G64 users must "LOAD SMP"; the load will fail if you get the case wrong.

PROLOG (PROgramming in LOGic) is

In micro-PROLOG data is held in the form of Facts and programs are built up from Facts. A typical Fact might be entered as using the SIMPLE language notation:

straight-Facts look like this:

A whole series of such Facts can be entered to show all the combinations of winning Picker facts:

A Rule might be:

```

I win if
I hold x and
You hold y and
x beats y
    
```

or:

```

You win if
You hold x and
I hold y and
x beats y
    
```

Variables appear in the rules starting with X, Y, or Z. All the computer needs to know now are the two facts:

```

I hold full-house
You hold three-of-a-kind
    
```

and it will be able to answer the query:

```

Which (X) is a win
    
```

with the response:

```

I
No (more) answers
    
```

Micro-PROLOG produces the statement "No (more) answers" to indicate that it has found all the answers that fit the Facts and the Rules. The whole command ends out of possible options, in this case there is only one, I win.

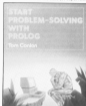
requiring quite a bit of attention at the moment because it appears to offer the promise of allowing computer users access to the power and storage capacity of their machines without having the restrictions built into most traditional languages. In theory a PROLOG-based computer might be able to answer questions such as "how can I make the highest profit?", or "which computer offers the best value for money?". It is possible to use traditional languages to achieve a similar sort of thing (anyone who has played a good modern adventure game will know how well computers can, when properly programmed, understand sentences) but such a computer will fall over when you ask it something unexpected.

Research

In fact PROLOG looks so promising that it has been adopted as the basis for the much-publicised Japanese fifth-generation computer research project. One of the aims of this research is to produce computers which can converse in everyday language. The idea is that computers should be taught to understand humans, not the other way around. The problem is that there is a lot of work to be done before the fruits of this research will be available to the likes of you and me. In the meantime we can get on with micro-PROLOG, a version of PROLOG designed for use on microcomputers, and stick to the simple questions.

Micro-PROLOG, and indeed the full compiling version of PROLOG, come in a number of forms. The pure form is powerful

but somewhat rudimentary. To make it easier for beginners to use the language a number of variations have been developed which make programming easier but which suffer some limitations either in terms of program size or performance. LPA micro-PROLOG comes as the base (or super-base)



version plus a number of loadable utilities plus a total of three different educational extensions.

Equality

I do not have sufficient space here to go into details about what is unique about PROLOG, not to give more than a very simple example of how it can be used. However what I can say is that where most other languages are based on the mathematical capabilities of the computer (in machine-code this boils down to adding and subtracting), PROLOG relies on the ability of computers to test the equality of two items of data (machine-code compares). The end result is a language which is much better suited to general problem-solving than languages such as BASIC, FORTRAN, PASCAL, LOGO, and the rest, which are better suited to numerical analysis.

LPA micro-PROLOG is a comparatively costly but well-prepared package. I would certainly not recommend it to someone of an impatient nature if you are a professional programmer though, or may one day become one, micro-PROLOG is well worth looking at. ■

NOTEWORTHY: LPA micro-PROLOG
 MH1005 G64
 MH1010 G70-91 (rev. P&P) Disc version only.
SUPPLIER: Logic Programming Associates
 Ltd., Studio 4, The Royal Victoria Patriotic
 Building, London SW16 1SR

Lots for the tots!

Software for kids needn't consist of endless shoot-'em-ups —
Mike Garmod looks at some educational programs
featuring children's favourites

Orm & Cheep

THESE TWO titles featuring TV's cartoon characters are both from the Frigate Software team, which is usually a good sign for software that's both fun and educational, though this time I felt the excellent sound and graphics have been let down by a rather poor and confusing content. A fast loader would have helped, too, as if anyone's going to be impatient on a Commodore load then it's going to be the young children that there are presumably aimed at.

The Birthday Party begins with a fairly straightforward game in which Cheep helps Orn to bake a cake, and you have to



remember which ingredients are in which of four jars as Orn calls for them in turn. From this simple beginning, though, things get very complicated, and to explain the next section I'll have to paraphrase Groucho Marx: "Who, a five-year-old-child could understand this — go out and fetch me a five-year-old-child!" You have to guide Cheep round the countryside and also rescue Mike's endangered trainsets to collect various friends.

Moving round the countryside is tedious, especially since you've got a few friends to tow as each of them slides separately and slowly across the screen as you move from one place to the next, and even I got lost in the network of Mike's tunnels, trying to remember that I'd entered each picture as if from the bottom of the screen. A final game involves saving the trainsets in the right places round a table.

Narrow Squares was similar, with excellent graphics and sound but, I think, rather too complicated for the young children the characters will appeal to. I found it difficult getting to grips with the first mini-arcade style game, where Cheep moves round the screen and you have to manoeuvre him over various leaders objects in turn, and then you move these into a stack at the side of the screen. The difficulty is that he is moving constantly and will only make a quarter turn clockwise when you press a key. Moving to the right and down is very easy, but to the left and up is extremely frustrating, and in an annoying rather than an amusing way.

This is followed by a variation on the Simon Says memory game, and another couple of

small but amusing games. I suppose it is difficult to design games that youngsters can cope with, without making them too simple, but I'm a loving parent who likes watching Orn and Cheep will prefer the TV version.



Software: Orn and Cheep: The Birthday Party/Narrow Squares

Price: £10.00

Supplier: Macmillan Ltd

Markets: Commodore 64

Winnie the Pooh

THIS IS for anyone from the age of seven upwards, apparently, though I've always found Pooh to be a bear of very little appeal, too category-walky altogether. I mean anyone who hangs around with a wit like Christopher

Robin has a great deal to answer for. So completely unloved, I shall venture into the Hundred Acre Wood adventure, where the story is that a blustering wind has scattered the belongings of



Pooh and his friends, and it's the job of the luckless bear to find these and return them to the right people, a job made more difficult because he can only carry one object at a time and also cannot drop an object in a place where one is already present.



Each location is accessed from disk and consists of a colourful and reasonably quickly done drawing occupying most of the screen, with rooms for a few lines of text beneath. Much of the text is amusing, and probably familiar to devotees, and the adventure itself is mostly menu-driven. In other words you're given a list of options and have to choose one. The space bar moves your cursor through the options, and RETURN selects one, there being the only two keys needed in the game.

Despite the inclusion of some very nice touches, such as a location where you can listen to Tiggy's song, and a SQUEE option

that even the youngest child could cope with, I found the game to be rather unimpressive. You have ten objects to find and return, those being placed randomly for each new game, but as you return each object you're merely thanked and told to go on to the next. And that's it. If you take too long about it then the wind will return and redistribute anything still lying around, but despite my belief in the educational value of almost any adventure I found it hard to understand the value of this one. Very jolly for a while, and young children will probably like the repetitive familiarity, but I can't see anyone older than seven or eight playing it for very long. Unless you're as wit as Christopher Robin, of course.



Software: Winnie the Pooh in the Hundred Acre Wood

Price: £12.95, disk only

Supplier: Wad Discs Personal Computer

Software/US: Gold

Computer: Commodore 64

Max

AT LAST a piece of educational software that actually states the age range it's aimed at, and also what it hopes to teach. As on top of that it's delightfully programmed, several show they can be just as effective in this area as in their games software.

There are four levels, tailored the different ages and abilities, and the programs can either be done by the child alone or under supervision. They all take place on a small stage on the screen, and the jolly opening music is just like writing a child down to its favourite TV programme. All features a character called Max, a round orange creature resembling the Space Hoppers that were popular several years ago. The easiest option is simply watching the letters, as Max goes through the alphabet and produces an action to illustrate each letter. These are beautifully animated, and had me laughing as he D for Danced and H for Hopped around. As well as upper and lower case being shown on the stage, each letter is usually matched to its place on the keyboard beneath.

Next option is to ask the child to press a letter to make Max perform one of his little routines, and these are so attractive that it's



an incentive to a child to learn which letters go with the words for which actions. The response is also instantaneous, the selected letter appearing to slide on screen before you've even touched the key!

Then you're given a letter on the screen and must find it on the keyboard, the reward being another little performance from Max, and all three programs show a great deal of movement and response, which is important to the child that finds it hard to do. Finally Max comes on and does one of his actions, such as K for Kicking or P for Peeking (which I think is better than F for Frowning) and the child must find the letter on the keyboard. Lovely stuff, but too ambitious in its intentions, but well thought-out and definitely one for the Christmas stockings.

Software: Kayaker Games
Price: £19.95
Suppliers: Haydon
Computer: Commodore 64

The Mr Men

THE GENERAL standard of Microsoft's educational titles has been very high, and this low cost (raising the well-loved Mr Men to its exception). Aimed at children from five to eight years old, it includes two versions: *Mr Sneezy's Word Game* and *Read With Mr Sneezy*.



The first is intended to give a greater understanding to the concepts of Diphthongs, Consonants and Superlatives, with a choice of nine 'games' of increasing difficulty. The first simply introduces words by showing them, for instance, Mr Silly could be tall or short, wide or thin, and later games introduce the idea of taller and taller, shorter and shorter, and so on. The child might be asked to type in the word to describe the Mr Men, eventually being asked for opposite words and finally trying to fill sentences such as 'Mr Silly is Fat.' Whenever a Mr Silly puts in an appearance.

Read with Mr Sneezy deals with the propositions, showing the boy's letters on things, in things, outside, under and inside things, and is generally useful although using simple cartoons to try to illustrate the difference between in and inside, for example, doesn't always work properly. There are three main scenes, with five different games to play, and again they gradually increase in difficulty once the child is ready to move on.

Lively graphics and sound on both of these, and the popularity of the Mr Men should assure that children will want to play the game, increasing their vocabulary and their general reading skills.

Software: Word Games with the Mr Men
Price: £9.95
Supplier: Microsoft
Computer: Commodore 64



Donald Duck

THIS IS one of several titles being put out by US Gold on the specially created KidNet label, and a wonderful piece of software it is, too. I had a good fun with this as with many a mega-game, and it certainly has a healthy teaching content too.

You'll need a joystick to move Donald around the screen, the game beginning with him on a main street, down one side of which are stores, down the other side shops. I wandered into one of the stores, where other Disney characters offer you some tempting playthings. Unfortunately, I discovered, Donald had no money, but across the street I found several places where I could put him to work for a set number of minutes in order to earn a few precious coins. Lesson one in the realities of life, I think.

One job was loading cargo at the airport, with parcels coming along a conveyor belt each with three letters stamped on the side to indicate the destination airport. You have to pick up a parcel and put it in the right

container from four behind you, and you're only paid for correct ones. This puzzled look in Donald's eyes as he wanders along with a parcel in his hands is a treat, as is the way he loops up and down and squawks at you if you make a mistake in the fruit farm. Here you have to catch a piece of fruit and put it into the correct container, this time matching up pictures rather than letters.

Next task is in the toyshop, running up and down a ladder with toys in your hand, and finally there's a railroad game where you have to continuously switch six points on a track in order to get a train to deliver goods to the right station.

When you've earned your coins (and you can wander in and out of whichever doorway you choose) you then get to spend them, but it's up to you to place the right coins and notes in the slot slots to pay for the goods, taking the correct change as well. Very training of the hand sleepkeepers, though I wouldn't try cheating if I were you.

You then stack your hard-earned gains across the railway tracks at the top of the screen, with Donald naturally looking both ways before he crosses the tracks, and here you can make him play with the various things he's bought. Great fun, well thought-out, and genuinely educational in a way that will make children want to play.

Software: Donald Duck's Playground
Price: £12.99 on disk
Suppliers: Walt Disney Personal Computer Software/US Gold
Machine: Commodore 64

Henry Hilo

THESE ARE just two of a whole host of titles released for the 64 by publisher McGraw-Hill in a series called *Ladders to Learning*. If these are in any way typical, it seems to be a case of quantity rather than quality.

Hangman III is described as "an exciting spelling game with a difference, accompanied by superb graphics and sound." Well, I would hardly call a game based on Hangman different, as there are about 27 versions of it for every computer under the sun, while the superb graphics consists of a drawing of a Hangman slowly better than you can do with pencil and paper, and I must have missed the superb sound while I was busy admiring the superb graphics. It is said to be for children from 8-10, but the different difficulty levels are given according to the American school grade system — I wouldn't have taken much effort to change this for a British market.

If the game is a dull choice, the implementation is even duller, with messages being slowly printed on the screen a letter at a time, and when you begin a game you must sit and wait while the computer 'reads' the words in its vocabulary, ie prints each one briefly on the screen. As there are approximately 200 words in each skill level, you can imagine how long this takes. In the game itself you only have seven incorrect guesses allowed, rather than the 10 you'd get with the way most people would draw a hangman, and the program isn't even provided, which all educational software should be in case the wrong keys get hit. But

at least if you can break into the program you might be able to improve it.

Ballons Game is for ten-year-olds and over, and is a maze game for 1-4 players. At the start you're given several pages of information about winds, air, altitude and the atmosphere generally, so, as a waste of the 64's graphics potential for making such subjects interesting



before starting on to the game itself. You press a key to spin an arrow, which may come to rest on a number or a 'T'. If the latter your balloon makes the appropriate number of moves across the screen, or if the latter then you have to answer a question to earn a certain number of moves. First of the four balloons in the other side wins. To quote the classic cover again, "Enjoy the excitement and danger of hot air ballooning!" So much for it, I'm afraid.

Software: Ballons Game and Hangman III
Price: £1.95
Supplier: McGraw-Hill
Machine: Commodore 64

HIGH-RES GRAPHICS AT LOW-RES PRICE



THE HIGH QUALITY
REPRODUCTION



LOW-RESOLUTION
FOR TRACKING



ELECTRONIC CIRCUIT
DESIGN WITH OVERLAY



ADVANCED 3D DATA
WITH OUR SOFTWARE

- A4 SIZE DRAWING AREA
- HIGH RESOLUTION COLOR
- HOME AND BUSINESS USE
- WAREHOUSING OR OPTIONAL PROGRAMMING
- FREE HAND DRAWING
- CIRCUIT DIAGRAMS

- C.A.D.
- PCB
- LAYOUTS
- EASY TO USE



THE ONLY DRAWING
SOFTWARE WITH A4
GRAPHIC

£599.50

INC. VAT

CALL 0800 000000 FOR MORE INFORMATION

GRAFPAD II -

THE ULTIMATE IN GRAPHIC INPUT DEVICES FOR THE BBC, COMMOORE AND AMSTRAD MICROS

The first low-cost graphic tablet to offer the performance and durability required for business, industrial, home and educational applications. Its small, accurate and reliable. Needs no adjustment or proprietary maintenance. **GRAFPAD II** is a unique product that brings the power of modern technology under the control of the user.

- **GRAFPAD II**
- A British British invention manufactured in UK, Britain, unqualified in the world of graphics input.
- Forward space age technology makes the Grafpad II unique in its digitizing technology.
- The combination of 3 years of advanced research to create a real graphical solution for the world computer market.

SPECIFICATIONS

- Resolution: 1000 x 1000 pixels
- Responsiveness: 1 pixel
- Output rate: 2000 or 4000 dots per sec
- Resolution: 2000 or 4000 dots per sec
- Resolution: 2000 or 4000 dots per sec
- Output: 2000 or 4000 dots per sec
- Dimensions: 200 x 200 x 12 mm

EXPORT AND DEALER ENQUIRIES WELCOME

IT COMBINES IN ONE DEVICE ALL THE

- FACILITIES OF PREVIOUS ATTEMPTS AT INPUT DEVICES. THE APPLICATIONS ARE AS NUMEROUS AS YOUR CREATIVITY.
- COMMAND FIELD DEVICE - A PEN - AND-MOUSE
- Option Selection ● Form Input ● Data Collection ● Logic Design ● Circuit Design ● Picture creation ● Picture storage ● Picture retrieval ● Construction design ● CAD ● Text Illustration ● Games ● Pattern Design ● Education ● PCB Design

TO SUBSALISTS

Unit 8, Derby Works, Casey Place, Westford,
Herts, WD1 2LS. Tel: 0962 44822

Please notify: GRAFPAD II by: MICRO
at £59.95 plus £2.00 p.p. *VAT included for those registered

Name: _____
Address: _____
Postcode: _____

Check an enclosed value if
you can help by credit card or telephone order

Name	
Address	
Postcode	

Casting the 'Net wider

Douglas and Richard Here — otherwise known as MACH 31 — discuss the joys of using CompuNet

Each month, in this feature, we shall be highlighting what's New and exciting in networking, although regular "net users will know how difficult it is to remain unbiased!

Speaking of us, most CompuNeters will know us as "MACH 31". If you notice that's a pretty weird name, here's a short list of some other users' aliases. The Mighty Bogg (or "Bogg" to his close friends); Yori; Goggin; Kenelope — see what I mean? Anyway, before we digress any further, here is a roundup of what's happening on CompuNet.

Party Line

Those who were fortunate enough to see the I.C.A.C. stand at the Commodore Business Show would probably have been given a pre-release version of Party Line. This allows users to chat to each other in a scrolling, real time, C.B. format. Being one of the privileged few who were allowed to see it for the show, we found it to be much better than the old Chat Line, making it less frustrating and more enjoyable.

Apart from its speed, it is possible to find out who's present with the "WHO" command (very like M.U.D.). This is an improvement, as it prevents you from speaking to yourself for half an hour before logging off to a fit of rage. Another new command, "ALIAS" is available. This seemed set to be one of the most popular features. It allows you to use a more personal name along with you I.D. This may seem innocuous enough, but most of the Party Lines did abuse their aliases, with often amusing results. How? Well, when you create a new alias it is printed up on the P.L.

in this format; 'MACH 31 is now RICHARD' for example. Still seems pretty innocuous, doesn't it? In fact it is until you start doing things like this: 'MACH 31 is now DEAD' or 'CLIVES is now BANKRUPT!' Get the idea? Endless hours of fun we assure you.

Although there was a limit of eight users at a time when we used it, there have been plans for a "room" version being introduced later, in which the Party Line would be split into different "rooms" each capable of handling 8 users and you would be able to speak to the people that were in one "room" only. So when someone enters the P.L. they would choose which "room" they wished to enter. A group of people who want to chat privately may be able to reserve a "room" for themselves.

When the finished version of P.L. is released later in November, it will be very busy since it has long been awaited by many CompuNeters. We certainly recommend it to anyone and if you aren't a subscriber yet then here's a thought for you: Talking to someone who lives a long distance away from you on Party Line will probably be cheaper than phoning him or her directly. Speaks huh?

There has been no sign of M.U.D. If yet but there still seems to be a lot of action happening on M.U.D. events. It appears that certain nasty wizards and witches have been tapping other M.U.D.s for no reason. To combat these rather underhand actions, IJSD has set up a Multi-User Gang. If you have been killed by the powers of a corrupt



wizard or witch, then you can contact M.U.D. and put a contract on the offender. The Maggers will then carry out the mission and with one luck punch his lights out, in the most possible way!

The company Reactive has set up a section called *CompuNet Basement*. On sale are both software and hardware products at discount prices. To purchase the goods you want is simple; you just buy the order form! The order form is a page which has the appropriate price put on it. Once you have bought the desired items you mail (CompuNet mail that is) it to Reactive along with your personal details.

DON'T FORGET the Commodore Horizons/CompuNet Graphics contest! Check out the What's New section of CompuNet for details — you can win one of six Wiggins House MS-3000 Mouse packages, with three graphics software, if you computer art measures up!

Nearly two months ago CompuNet set a competition for writing a slogan to describe the 'net. The prize for the winner was a colour monitor, but we decided not to enter as the only idea we had was "Discover the secret of the black, magic box". However, C'net has announced the winner and it's James Taylor (JRT) with his slogan "Log on to the Line One!". So look out for it in C'net's adverts from now on.

Well that about wraps it up for this month. Remember our I.D. is "MACH 31" if you want a chat (hopefully on Party Line won't) so send them, it's goodbye from here and it's goodbye from here. ■



THAT WAS '85

Your chance to vote for the best and worst of the year, and win top software prizes

YOU'VE SPENT a year reading what our reviewers think are the best Commodore products; now it's your turn to have a say. Vote for the best (and worst) of 1985 and you can get your list published in *Horizons*, and win the latest games titles from TEN top software houses.

Just fill in the form — leave blank any categories in which you don't have a nomination — and post the form (or a photocopy) to the competition address. Remember that the Editor's suggestions are just for fun; any reader who just agrees with him on all counts will be eliminated.

1 BEST ARCADE GAME

When should you look for in an arcade game? The best combination would include skilled programming; exciting sound and graphics; and challenging gameplay. *IKK's* *Bucket Ball*, the high-speed Fantastic contest sport simulation, gets very high marks from me, as does *ACE*, Cascade's combat flight simulator. But the best of the year has to be Melbourne House's *Way of the Exploding Fish*: brilliant in design and execution, and so "just-one-more-game-ish" that it should be retained.



ARCADY TURKEY 2

Worst arcade game? Well, what a lot to choose from. Although it would be easy to pick some dire budget title, distinguished only by chunky graphics and derivative design, let's use a little imagination, too. Let's consider those titles backed up by massive advertising campaigns and sold at inflated prices, which still manage to be crap. I've sure you all have your favourites.



3 BEST ADVENTURE GAME

Adventure games come and go, and although the text-only types seem to be waning as compared to graphics-based programs, there's still a lot of mileage in them. Programs like *Beyond's* *Melbourne* have set new standards for programming, although some would argue as to whether it's an adventure I'd nominate *The Fourth Protocol* in this category, but I would expect many to nominate more conventional adventures like the disk version of Melbourne House's *The Hobbit*.



ADVENTURE TURKEY 4

There are lots of rotten adventure games on the market, many of them drawing very heavily on the influence of *The Hobbit*, too, I hasten to add, a rotten game itself. However, it isn't just the warlocks-and-wizards genre which gives rise to stuffy or there's plenty of choice for adventure turkey of the year.



5 BEST ARCADE-ADVENTURE

Arcade adventures are rare to spot though hard to define: the obvious points are a combination of animated graphics and an element of quest. *Ultimate's* *Staff of Karnath*, *Emulated* and *Blackwood* are among the best-known examples. *The Edge's* *Wizards* are excellent contender, but for the best of the year, a combination of sophisticated graphics and complex gameplay, I'd go for *Com's* *Frankie goes to Hollywood*. What do you think?



ARCADY-ADVENTURE TURKEY 6

There are lots of over-fused arcade adventures, so you should be spoiled for choice here. *Wizards* rip-offs abound, and many budget titles consist of little more than making your way through the magic lands of Tharg collecting the sacred grimoires of *Splodge-Go* for the threat on this one.



7 BEST CREATIVE PACKAGE

Blessed with the best graphics and sound facilities of any popular home computer, the M16c may excite creative hardware and software packages. Among the *Voices Master* speech sampler, *Supersoft's* *Miniwave Digital Sound Editor*, the *Island Logic-Flybird Streamed Music* system, and *Commodore's* *Music Maker* packages are all contenders; but my favourite would be the *Systeme Software*, the digital percussion add-on which makes your M1 sound like Keith Moon.



8 BEST HARDWARE PRODUCT

There's lots of lovely hardware for the M1, joystick, speech synth, sampler, disk drive, and so on. And let's not forget *Commodore's* CD, new disk drive and so forth. But, the bit of hardware which has given me the most pleasure is the small but perfectly formed *Wigmore House M1-1000 Mouse*, with its hi-res graphics software. No doubt you have your favourite too.



9 BEST PROGRAMMING UTILITY

Plenty of programming utilities to choose from too, on cassette, disk and ROM. Anything which makes it easier to use the micro Basic commands, machine code utilities, language packages such as *Frank, Cobol, and Pascal*, what's your favourite? Personally I'd choose the package which offers a Basic toolkit, fast ROM and tape operations, printer utilities and lots more, the *Balbeam Turbo 58* cartridge.



10 BEST "BUSINESS" PROGRAM

Business utilities such as word processors, databases and spreadsheets aren't everyone's cup of tea, but they certainly aren't all alike. *Analogue's* *Microtext*, *MicroMaggie* and *MicroWordcraft* have had an enormous impact, as has the budget *Mini Office* cassette from *Database*. Established companies such as *Viva* and *Proclon* have also come up with new versions of old favourites.

11 PROGRAMMER(S) OF THE YEAR

Programmer(s) of the year, what a hard one. Would I be accused of bias if I nominated Jeff Minter? Before you all shout "FIX!" just because Jeff wrote the fabulous *Syncre* and *System II* and his monthly column for us, let me remind you of *Aspidochelone*, *Mania Llama*, *Psychobolia*, *Sharp in Space*, *Starbuck*... however, feel free to nominate whatever individual, team or title you wish for the Programmer of the Year award.



YOUR OWN CATEGORY 12

Lastly, the do-it-yourself section. Invent your own category and winner. Anything you like, not even necessarily to do with computers. Suggestions: *Psychobolia*, for the year's greatest contribution to peace, love and harmony; *New Order*, for *The Perfect Kiss*, the year's best 12" single; *U2's* *Rattle and Hum*, for the best contribution to sales of Commodore computers... etc, etc, etc. Use your imagination.

Name _____

Address _____

Here are my nominations for the Commodore Horizons '85 awards:

- (1) BEST ARCADE GAME _____
 - (2) ARCADE TURKEY _____
 - (3) BEST ADVENTURE GAME _____
 - (4) ADVENTURE TURKEY _____
 - (5) BEST ARCADE-ADVENTURE GAME _____
 - (6) ARCADE-ADVENTURE TURKEY _____
 - (7) BEST CREATIVE PACKAGE _____
 - (8) BEST HARDWARE PRODUCT _____
 - (9) BEST PROGRAMMING UTILITY _____
 - (10) BEST "BUSINESS" PROGRAM _____
 - (11) BEST PROGRAMMER _____
 - (12) YOUR OWN CATEGORY _____
- WINNER** _____

**COMMODORE
 HORIZONS
 1-9-8-5
 AWARDS**

Send your completed form, or photograph, to *The Best of '85 Commodore Horizons*, 10/13 Little Newport Street, London WC2H 9PP, to arrive by the last day of January.

Evesham Micros

THE UTILITY SPECIALISTS

THE NEW GENERATION OF BACKUP SOFTWARE HAS ARRIVED



...the most advanced backup software available...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ONLY £99.95

DOUBLER

The safe back up 'driver'

Double the size of documents scanned and converted to soft copy and 'Zip' Double to the best protection available...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ONLY £14.95

Why waste for less - order in the bulk!

HARDWARE SPECIALS

£299.00 for the...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ONLY £299.00

£249.00 for the...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ONLY £249.00

£249.00 for the...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ONLY £249.00

£249.00 for the...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ONLY £249.00

£249.00 for the...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ONLY £249.00

DISC DIRECTOR V2.0

...the most advanced...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

ALIGNMENT PROBLEMS?

1041 PHYSICAL EXAM

...the most advanced...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

Quickdisc+ FAST AND EASY TO USE

...the most advanced...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

SELECTED UTILITIES

ADRENALIN - the most advanced...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

3M Floppy Disks

SEARCH RECORD 5.25" 1.44MB
500 **1000**
2000 **5000**
10000 **50000**
100000 **500000**
1000000 **5000000**
10000000 **50000000**
100000000 **500000000**
1000000000 **5000000000**
10000000000 **50000000000**

DATA RESCUE
 ...the most advanced...
...features include...
...compatible with...
...easy to use...
...robust...
...secure...

All prices include P&P and VAT. Send cheque, Postal Order or Credit Card No. Credit Card orders accepted by phone. Callers welcome. Wide range of goods stocked. Trade enquiries welcome. European orders sent plus as advertised. Outside Europe £2.00 for air mail. Mail order to Evesham Shop please.

Evesham Micros
 BRIDGE STREET, EVESHAM,
 WILTSHIRE
 Tel: 01666 41989

MICRO CENTRE
 1718 PETERBORO ROAD,
 COTTINGHAM, HUNTINGHAM,
 Tel: 021-438 4564

Disk washing

If your disk files are in a mess, John Cochran's routines will allow you to examine, copy and rearrange all your programs slowly but surely

THE 194 disk drive may be slow and overrated by today's standards, but it does the job intended for it of storing programs and data relatively easily and relatively quietly. If you are like me, however, this leads to problems, a pretty soon you have a whole load of discs filled with all sorts of rubbish, half finished programs, forgotten data files, and so on. Now I know that the answer to this is to keep a better filing system in the first place, I preach this philosophy myself, but somehow things never quite work out that way.

Recently I got to the stage where all of my discs were in use for one project or another but I wasn't quite sure what for. I would load in a directory to try and find out what I had been up to a month or so earlier and be faced with a list of half-meaningless file names. I couldn't even be sure that these called "TEXT" could safely be deleted. The problem, which can occur even the most fastidious file-keeper at times, is made worse by the lack of a command to enable the backing up of files from one disc to another. This is a desperate attempt to rescue myself from my confused disc filing I wrote the following program.

DISKUP is slow and will not work on any protected commercial discs. What it does do is give you the ability to display directories of all your discs a page at a time,



to copy single files from disc to disc, or to go through a single disc copying all the files to another one. This list is very useful for making regular backups of working discs.

The program is menu-driven, a menu is displayed at the top of the screen giving the options available. Options are selected by pressing a single key. If an error occurs while accessing the disc drive, for instance if you

attempt to get a directory when there is no disc in the drive, the program will stop with a suitable error message and you will have to re-start to try again. Files are read from disc a byte at a time and stored in memory in a string array. When the full file has been read in this way you are prompted to change disc and the file is copied to the new disc. ■

```

10 REM***** COPY *****
20 REM THIS PROGRAM COPIES DISK FILES
30 REM TO MEMORY AND THEN BACK TO DISK
40 REM*****
50 GOSUB 6000
60 GET I:IF I="" THEN GOTO 60
70 IF I="D" THEN GOSUB 3000
80 IF I="C" THEN GOSUB 2000:DP:=GOSUB 2000
90 IF I="T" THEN GOSUB 2000
100 IF I="I" THEN GOSUB 4000
110 IF I="Q" THEN GOTO 130
120 GOTO 60
130 CLOSE I
140 STOP
1500 REM***** COPY *****
1610 REM COPY FILE FN OF TYPE IN FROM
1620 REM SOURCE TO DESTINATION DISK
1630 REM*****
1640 INPUT "CLEAR:INPUT THE FILE NAME:"FN
1650 PRINT "CLEAR:INPUT A SINGLE CHARACTER
FOR FILE TYPE"
1660 PRINT "I:DIR:|C:DIR:|E:| IF (PROGRAM)"
1670 PRINT " " " :|S:|S:|ENTIAL:|"
1680 INPUT FN
1690 REM END ENTRY POINT
1700 PRINT "CLEAR:|H:|S:|RT SOURCE DISK"
1710 INPUT "RETURN WHEN READY:"T1:|
1720 PRINT "CLEAR:|C:|P:|H: "FN": TO MEMORY"
1730 OPEN S,S,R,FN=","+FN+",R":GOSUB 5000
1740 H:=VAL(H$G)
1750 GETH,T1:|T:=ST
1760 PRINT:PRINT:|L:|P:|T:|H:|H:|R:|I:|
1770 IF T1=H THEN GOTO 1710
1780 H=H+1
1790 IF H=255 THEN H=(H+1)MOD 255
1800 GOTO 1750
1810 CLOSE S:GOSUB 5000

```

```

1000 PRINT "I CLEAR INSERT DESTINATION DISK"
1010 INPUT "RETURN WHEN READY":T10
1020 PRINT "I CLEAR(COPYING "P$") TO DISK"
1030 OPEN B,L,B,P$,"R":T1,T10,LF:GOSUB 3000
1040 FOR T=0 TO N
1050 PRINT#4,TAB(10);
1060 NEXT T
1070 CLOSE B:GOSUB 5000
1080 RETURN
3000 REM***** LIST *****
3010 REM LIST THE DISC DIRECTORY
3020 REM*****
3030 PRINT "I CLEAR(DISK COPY) (PAGE
(1)FILE) (QUIT)"
3040 PRINT#PRINT "TYPE NAME BLOCKS"
3050 IF E% THEN PRINT "NO FILES" RETURN
3060 T1=DP+1:OP=1
3070 T1=H+30 IF T1% 200 THEN T1%
3080 FOR H=0 TO T1
3090 PRINT H#(H)
3100 NEXT H
3110 OP=OP+1
3120 IF T1% 200 THEN OP=1
3130 RETURN
3000 REM***** DIRECTORY *****
3010 REM GET DIRECTORY FROM DISC
3020 REM*****
3030 OPEN B,L,B,"R":GOSUB 5000
3040 G=1:IF T% OP=1:G=2
3050 T2=0
3060 PRINT#10,"FILE" TAB(10);
3070 PRINT#10,"S" TAB(10);
3080 GET#0,T10:IF#0:GOTO 3090:G1
3090 GET#0,T10:IF#0:GOTO 3090:G1
3100 IF T2% 20 THEN T2=1:GOTO 3060
3110 FOR P=1 TO 9
3120 GET#0,T10:IF#0:GOTO 3090:G1
3130 IF T1% 00 THEN T1=200 THEN GOTO 3310
3140 IF T1% 20 THEN T1=T1+1:G1
3150 H#(T1)=T1#(T1)
3160 GET#0,T10:IF#0:GOTO 3090:G1
3170 FOR H=1 TO 10
3180 GET#0,T10
3190 IF T1% 00:GOTO 3090 THEN T1=00:G1:G2
3200 H#(T1)=H#(T1):IF#0:GOTO 3090:G1:G2
3210 NEXT H
3220 FOR H=1 TO 9
3230 GET#0,T10
3240 NEXT H
3250 GET#0,T10:IF#0:GOTO 3090:G1
3260 GET#0,T10:IF#0:GOTO 3090:G1:G2:G3
3270 H#(T1)=H#(T1):IF#0:G1:G2
3280 GET#0,T10:IF#0:GOTO 3090:G1
3290 C=C+1
3300 GOTO 3040
3310 FOR H=1 TO 30
3320 GET#0,T10
3330 NEXT H
3340 NEXT J
3350 IF T2% 200 THEN GOTO 3000
3360 GOTO 3000
3370 CLOSE B
3380 H=H+1
3390 RETURN
4000 REM***** (MULT) *****
4010 REM MULT(COPY TO FULL DISC)
4020 REM*****
4030 FOR I=1 TO 8
4040 TR=LEFT$(TRAIL,1)
4050 P#(I)=LEFT$(I,8,15)
4060 IF RIGHT$(P#,1)=CHR$(32) THEN
P#(LEFT$(P#,LEN(P#)-1)+GOTO 4070
4080 GOSUB 1000
4090 NEXT I
4100 RETURN
5000 REM***** ERROR *****
5010 REM DISC ERROR REPORT
5020 REM*****
5030 INPUT#10,ERRSTR
5040 IF ERR% 20 THEN GOTO 5060
5050 IF ERR% 20 THEN RETURN
5060 PRINT "I CLEAR(DISK ERROR - "T10" "T10
5070 PRINT "I CLEAR(DISK ERROR STOPPED"
5080 CLOSE 10
5090 CLR
5100 STOP
6000 REM***** STARTUP *****
6010 REM INITIALIZE ETC.
6020 REM*****
6030 OPEN 10:G1:G1
6040 GET 100:G1:G1:G1:G1:G1:G1:G1
6050 FOR H=1 TO 9
6060 READ T1#(H)
6070 PRINT#10,"PRINT# "
6080 NEXT H
6090 G=0:OP=1:GOSUB 3000
6100 RETURN
6110 GOTO "I WASH (WASH) (OFF)", "I WASH (P
(WASH) (OFF)", "I WASH (WASH) (OFF)", "I WASH
(WASH) (OFF)"
6120 DATA "WASH", "WASH", "WASH", "WASH"
7000 REM***** VARIABLES *****
7010 REM LIST OF VARIABLES
7020 REM*****
7030 REM I=NEXT PAGE OF DIRECTORY
7040 REM C=NUMBER OF FILES ON DISC
7050 REM P=DISC SECTOR FILE NUMBER
7060 REM L,N,M=COUNTERS - LOOP VARIABLES
7070 REM S=TRACK 10 SECTOR NUMBER
7080 REM T1 TO T3=TEMPORARY VARIABLES
7090 REM TR=TRACK NO READ FROM DISC
7100 REM P#(I)=FILE NUMBERS
7110 REM I#(H)=I
7120 REM H#(I)=MEMORY COPY OF FILE #I
7130 REM H#(I)=DISC DIRECTORY ENTRIES
7140 REM T#(I)=FILE TYPE
7150 REM T1#(I)=TEMPORARY STRING
7160 REM T1#(I)=FILE TYPES

```



AVAILABLE FOR

- C64
- AMSTRAD
- ATARI
- BBC/ELECTRON
- VIC 20 + 16K
- PLUS 4 ● C16 + 16K
- SPECTRUM

£7.95 each

TRADE ENQUIRIES: Aming Software Ltd, Unit 10, Victoria Industrial Park, Victoria Road, Darford, Kent, G23 1 8Q (0323) 82613/8
MAIL ORDER: 8 High Street, Horley, Surrey, Horley CO13 4JG (0323) 81448/03510
Payment By: ACCESS/VISA/BARCLAYCARD/CHEQUE or P.O.

If You can Only Buy one Great Piece of Software, Buy

TEAM MATE

For the C-64, C-128, Atari XL and XE Series

Integrated Word Processing, Data Base Spreadsheet and High Resolution Graphics in a Single Disk

It's a Wordprocessor

Prepare professional looking documents by utilizing an 80 column screen format and simple commands that enable you to vary margins, justify text, search and replace words or phrases, vary page and paper length, link unlimited amounts of pages, and move blocks of text between pages. Printer commands include shadow and bold printing, superscript, subscript, and centering. Print preview mode allows you to preview your text before you print - view page breaks, formats, underlining, etc. Print preview works with integrated data so you can see where data will be positioned in word processing files. Perfect for form design and labels.

It's a Spreadsheet

Performs tedious home, school or business calculations quickly and easily. Frequently used formulas can be duplicated throughout the 17 columns and 50 rows. You can assign a name to a value, for use at another place in the spreadsheet. Conditionals can be performed on any value or formula to test theories or affect other values and formulas in the spreadsheet.

It's Integrated

Because programs are integrated as a single system, data can be moved between the programs without ever having to swap disks. A window capability allows data to be viewed in one screen, while working with another set of data in the other screen. This means you can generate and print customized reports and letters, with data incorporated anywhere in the written text.

It's a Data Base

This computerized filing cabinet allows you to store and organize mailing lists, inventories, personal files and much more. These items can then be retrieved by category, name, index code or data range. Subfiles can be created for custom reports. Storage capacity yields up to 999 records with 17 fields per record, and 38 characters per field.

HIGH RESOLUTION GRAPHICS

You can create a pie chart which will graph up to nine values. Line graphs and bar graphs can display up to three variables in one chart. Both positive and negative values can be displayed. In the bar chart, each variable can have up to 12 horizontal increments, the line graph can display up to 50. Scaling can be automatic or you can define your own minimum and maximum values. Test mode is incorporated with each graphic screen. You can enter text to title a graph, to type in a full description of each variable. Full cursor movement is available.

List Price: C64, Atari - \$34.95 C128 - \$49.95

Team-Mate Software

Debbie Green

Saffron Walden

Essex CB11 3LX

Phone 0371 830648

or see it at

G&B COMPUTERS

230 & 242 Tottenham Court Road, London W1

Phone 01-580 3702 or 01-535 6590

All credit cards accepted

Team-Mate is a product of

TRIMICRO 1984

ORDER FORM Machine Type _____

I enclose cheque for £ _____

Please charge my Access/Via No. _____

Name _____

Address _____

Post Code _____

Signed _____ Date _____

DEALER ENQUIRIES WELCOME

UnitSoft

UnitSoft Ltd
111-113, Old Street, London EC1Y 4PB



**CHART-TOPPERS
AVAILABLE FOR
COMMODORE**

101	102	103	104
105	106	107	108
109	110	111	112
113	114	115	116
117	118	119	120
121	122	123	124
125	126	127	128
129	130	131	132
133	134	135	136
137	138	139	140
141	142	143	144
145	146	147	148
149	150	151	152
153	154	155	156
157	158	159	160
161	162	163	164
165	166	167	168
169	170	171	172
173	174	175	176
177	178	179	180
181	182	183	184
185	186	187	188
189	190	191	192
193	194	195	196
197	198	199	200

**COMMODORE 64 AND 128
GRAPHICS SOFTWARE**

COMMODORE has announced a series of advanced graphics programs for the Commodore 64 and Commodore 128, which will be available for purchase in the coming weeks. A number of the new titles are available from the software publisher, UnitSoft Ltd, and include: "The Great Escape" (a 3D first person shooter), "The Great Escape II" (a 3D first person shooter), "The Great Escape III" (a 3D first person shooter), "The Great Escape IV" (a 3D first person shooter), "The Great Escape V" (a 3D first person shooter), "The Great Escape VI" (a 3D first person shooter), "The Great Escape VII" (a 3D first person shooter), "The Great Escape VIII" (a 3D first person shooter), "The Great Escape IX" (a 3D first person shooter), "The Great Escape X" (a 3D first person shooter).

The software is available for purchase from UnitSoft Ltd, 111-113 Old Street, London EC1Y 4PB. For more information, contact UnitSoft Ltd on 0707 52698.

UnitSoft Ltd is a leading software publisher, specialising in the development of software for the Commodore 64 and Commodore 128. The company has a reputation for producing high quality software, and has a wide range of titles available for purchase. UnitSoft Ltd is also a leading software distributor, and has a wide range of titles available for purchase from its extensive network of distributors.

UnitSoft Ltd is a leading software publisher, specialising in the development of software for the Commodore 64 and Commodore 128. The company has a reputation for producing high quality software, and has a wide range of titles available for purchase. UnitSoft Ltd is also a leading software distributor, and has a wide range of titles available for purchase from its extensive network of distributors.

UnitSoft Ltd is a leading software publisher, specialising in the development of software for the Commodore 64 and Commodore 128. The company has a reputation for producing high quality software, and has a wide range of titles available for purchase. UnitSoft Ltd is also a leading software distributor, and has a wide range of titles available for purchase from its extensive network of distributors.

UnitSoft Ltd is a leading software publisher, specialising in the development of software for the Commodore 64 and Commodore 128. The company has a reputation for producing high quality software, and has a wide range of titles available for purchase. UnitSoft Ltd is also a leading software distributor, and has a wide range of titles available for purchase from its extensive network of distributors.

UnitSoft Ltd is a leading software publisher, specialising in the development of software for the Commodore 64 and Commodore 128. The company has a reputation for producing high quality software, and has a wide range of titles available for purchase. UnitSoft Ltd is also a leading software distributor, and has a wide range of titles available for purchase from its extensive network of distributors.

UnitSoft Ltd is a leading software publisher, specialising in the development of software for the Commodore 64 and Commodore 128. The company has a reputation for producing high quality software, and has a wide range of titles available for purchase. UnitSoft Ltd is also a leading software distributor, and has a wide range of titles available for purchase from its extensive network of distributors.

UnitSoft Ltd is a leading software publisher, specialising in the development of software for the Commodore 64 and Commodore 128. The company has a reputation for producing high quality software, and has a wide range of titles available for purchase. UnitSoft Ltd is also a leading software distributor, and has a wide range of titles available for purchase from its extensive network of distributors.

- *Magic Mouse* brings speed, style and sophistication to your home computer
- This simple to use, fun package enables you to explore your computer's full potential
- In minutes you will be creating state of the art graphics and soon be writing your own programmes.
- With *Magic Mouse* the possibilities are endless...

£49.95 inc VAT and postage

MICRO MEDIA



Rydal Mount, Baker Street
Potters Bar, Herts EN6 2BP



Tel: 0707-52698

C.B.M. DISKS

Why buy unbranded, reject, out of spec, dusty or just plain "IFFY" disks. Control data supply drives to the industry leaders and they know more about disks than most. Do you want a manufacturers warranty on a 'promise' from a Post Office box, 100% certified branded disks in boxes of ten, hub ring labels. **THE BEST DEAL YET.**

SPECIAL LAUNCH OFFER



ONLY £12.95

SS/DD

BOX OF 10 DISKS. Post 50p (Europe 75p)

CREDIT CARDS
TEL: 01-446 7170
01-952 0451

**Adams
World**

Bring this advert and collect from our two shops or send cheques or PO's to any branch
Sent by return post



779 HIGH ROAD
NORTH FINCHLEY, LONDON N12

199c STATION ROAD
EDGWARE, MIDDX



INTERPOD

**Now the VIC 20 and 64
can communicate with
PET peripherals**

VIC and 64 users

Would you like to be able to access any of these peripherals from your computer?

- 1 megabyte disks (Commodore 8040 drive)
- 1 megabyte disks (Commodore 8050 drive)
- 20 megabyte disks (Commodore 8050 hard disk)
- Printers including a wide range of inexpensive IEEE and RS232C matrix and quality printers
- IEEE controllers such as soft modems, plotters etc.

Now you are no longer limited by the VIC or the 64 a serial bus. Simply by attaching INTERPOD you can easily increase the power of your VIC 20 and when used with the new 64, INTERPOD turns the computer into a really powerful system.

With INTERPOD the VIC and 64 become capable of running really professional quality software such as Word processing, Accounting, Inventory control and many more.

INTERPOD will work with any software. No extra controllers are required and INTERPOD does not affect your computer in any way.



Using INTERPOD is as easy as this:

Simply plug INTERPOD into the serial port of your computer, power up and you are ready to communicate with any transfer of parallel and serial IEEE devices and any RS232 printer.

Simply incredible at £59.95

Prices include VAT Printing and Postage. Delivery normally 14 days.
Export orders at no extra cost. Dealer enquiries welcome.

Send cheque/PO now to:

Cheetah
Marketing



CHEETAH MARKETING LTD
100 COMMODORE STREET, BANGOR
NORTH WALES, NEAR 166-170, GARDNER
PL. CARDIFF/PO BOX 171577 TEL 01-446 4444

MEET OUR COMMODORE COLLECTION

Digit Drum...II

For C64 or VIC 20

ONLY **£7.99** POST FREE

- TRIP - TRIGGER BUTTON
- AUTO FIRE MODE - EXTRA LONG LEAD
- STABILIZING SHOOTING PADS
- NOW FOR THE C16

ONLY **£8.99** POST FREE

SEND NOW AVAILABLE FOR IMMEDIATE DELIVERY



**THE
ONLY
TRIP
BUTTON
TRIGGER**

COM- DRUM



DIGITAL DRUM SYSTEM FOR THE C64

- Load Digital Drum Module
- Equipped with three programmes to start you off
- Very simple to use with no screen menu
- Low response to trigger
- Polyrhythmic sound
- Real live and live sequencer
- Complete with software
- Commercially Digitally Recorded "True 16" 14 KHZ 16bit DTM, Stereo 14 Hz, 14 Hz Stereo
- **NOTE:** There are no other available on cassette

SEND NOW AVAILABLE FOR IMMEDIATE DELIVERY

ONLY
£29.99

ONLY **£9.99** POST FREE
AVAILABLE FOR IMMEDIATE DELIVERY

**COM-DRUM SOFTWARE
ONLY. TO WORK WITH
THE DIGITAL SOUND SAMPLER**

DIGITAL SOUND SAMPLING NOW FOR YOUR COMMODORE 64

COMPLETE PACKAGE

ONLY **£49.99**

POST FREE

FOR DISC BASED SOFTWARE
PLEASE ADD £3.00

The Digital Sampler now brings you this technology at a reasonable price!

- The Sampler allows you to record any sound digital to memory and store it directly on any disk, backwards, forwards, recording notes, depending with who, reverb, fading, volume, level on. Truly professional performance
- 64K of DRAM parallel processing
- Use a 16bit input, 16bit output and feedback control
- A comprehensive software editing facility
- 16bit auto-mixing with auto, manual, digital filter, filtering etc.
- 16bit Sample editing facility with reverb and auto compression setting
- A powerful sequencer with direct input and editing

Available with complete hardware/software package. Complete with reverb and filter software please add £3.00

WARRANTY SERVICE
NON-PROFITABLE SERVICE
NON-PROFITABLE SERVICE
NON-PROFITABLE SERVICE

15 DAY CREDIT
(CARD USE)

**DATEL
ELECTRONICS**

128

2 games in
the biggest of
which
128
128
128



through its ability to
store 128K of
information - 128K
of information is
available on 1
diskette for
the first time for
a Commodore Superdisk II
128K. 128K of 128K of
128K of 128K of
128K of 128K of

Superdisk 64

As the feature pack now used by professional
users, this advanced format offers
improvement for loading, archive and
storage, better disk and media, low wear
media, more volume, more information,
more and volume information, more and
volume information, more and volume
information, more and volume information,
more and volume information, more and volume
information, more and volume information,

SEND NOW ONLY **£29.99** ...AVAILABLE FOR IMMEDIATE DELIVERY

IBM BOOKS

The Anatomy of a Commodore 64	£4.99
The Anatomy of the IBM PC	£4.99
The IBM PC Family Book	£4.99
IBM PC Family Book for you to use	£4.99
IBM PC Family Book for you to use	£4.99
IBM PC Family Book for you to use	£4.99
IBM PC Family Book for you to use	£4.99
IBM PC Family Book for you to use	£4.99
IBM PC Family Book for you to use	£4.99

Super TYPE

As a
128K
128K
128K

SEND NOW ONLY **£19.99**
...AVAILABLE FOR IMMEDIATE DELIVERY

Superdisk 64

As a
128K
128K
128K

SEND NOW ONLY **£29.99**

IBM

IBM

IBM BUNDLE!

IBM

SEND NOW ONLY **£29.99**

VIZASTAR 64

VIZASTAR 64

VIZASTAR 64

SEND NOW ONLY **£29.99**

VIZAWRITE 64

VIZAWRITE 64

VIZAWRITE 64

SEND NOW ONLY **£29.99**

VIZASTAR 64	£29.99	VIZAWRITE 64	£29.99
VIZAWRITE 64	£29.99	VIZAWRITE 64	£29.99
VIZAWRITE 64	£29.99	VIZAWRITE 64	£29.99
VIZAWRITE 64	£29.99	VIZAWRITE 64	£29.99

SEND NOW ONLY **£29.99**

FOR IMMEDIATE DELIVERY
CALL US TODAY!
OR VISIT US NOW

Calico Software

15 DAY CREDIT
(CARD USE)

LOOK AT DOSOFT'S NEW OFFERINGS AND SEE WHAT'S IN THEM FOR YOU

1 Megatransfer Disk

Use multiple diskettes and tape drives to transfer software programs, documents, spreadsheets, databases, word processing files, and other files. Transfer files between computers, and other disk drives. No user knowledge required. Transfer files between computers, and other disk drives. No user knowledge required. Transfer files between computers, and other disk drives. No user knowledge required.

\$17

2 MegaUtility Disk

A handy collection of utilities to make the most of your 5.25-inch floppy disk. Includes: **• Alphabetical Disk Search** - Search for files on a disk. **• Disk Copy** - Copy a disk to another disk. **• Disk Defragmenter** - Defragment a disk. **• Disk Diagnostic** - Check a disk for errors. **• Disk Erase** - Erase a disk. **• Disk Format** - Format a disk. **• Disk Label** - Label a disk. **• Disk List** - List files on a disk. **• Disk Move** - Move files on a disk. **• Disk Rename** - Rename files on a disk. **• Disk Sort** - Sort files on a disk. **• Disk Unformat** - Unformat a disk. **• Disk Verify** - Verify a disk. **• Disk Wipe** - Wipe a disk.

\$12.95

"The best transfer utility of the lot"

Your 64



AND SAVE MONEY TOO!

For more information, you can write to: **DoSoft**, 2000 West 10th Street, Vancouver, BC V6P 1M1, Canada. Phone: (604) 271-1111. Fax: (604) 271-1112. Telex: 253333. Cable: 253333. DoSoft is a registered trademark of DoSoft.

How to get your DoSoftware: **• Call** 1-800-555-1234. **• Write** to DoSoft, 2000 West 10th Street, Vancouver, BC V6P 1M1, Canada. **• Visit** our website at www.dosoft.com. **• Visit** our store at www.dosoft.com/store. **• Visit** our store at www.dosoft.com/store.

3 Disk to Tape Plus

A complete collection of Disk to Tape software for transferring software programs, documents, spreadsheets, databases, word processing files, and other files. Transfer files between computers, and other disk drives. No user knowledge required. Transfer files between computers, and other disk drives. No user knowledge required.

\$12.95

4 MegaTape

A handy collection of utilities to make the most of your 5.25-inch floppy disk. Includes: **• Alphabetical Disk Search** - Search for files on a disk. **• Disk Copy** - Copy a disk to another disk. **• Disk Defragmenter** - Defragment a disk. **• Disk Diagnostic** - Check a disk for errors. **• Disk Erase** - Erase a disk. **• Disk Format** - Format a disk. **• Disk Label** - Label a disk. **• Disk List** - List files on a disk. **• Disk Move** - Move files on a disk. **• Disk Rename** - Rename files on a disk. **• Disk Sort** - Sort files on a disk. **• Disk Unformat** - Unformat a disk. **• Disk Verify** - Verify a disk. **• Disk Wipe** - Wipe a disk.

\$9.95

DoSoft

You'll Do it Better with DoSoft

FAST DISK UTILITIES • LOADERS • 3-MIN DISK COPY • FAST DISK FILE COPY • FAST FORMAT

50 COMPUTER GAMES ON ONE CASSETTE

YOURS FOR £9.95

including FREE Watch your Message

FREE

30 KEY, MULTIFUNCTION CALCULATOR WATCH with every order for a Cassette 50

Special 10 and 24 hour time mode

- Calendar mode
- Alarm mode
- Calculator mode

FREE calculator watch with every Cassette 50

EXPRESS DELIVERY ORDER NOW! ONLY £3.95

Name: _____

Address: _____

Post Code: _____

Order No: _____

Commodore 64

Only you can save Europe from destruction! It's ROCKET LAUNCH, the thrilling war game that reproduces a European map. More ambitious? Try rescuing your crew under an alien's GALACTIC ATTACK and escaping back to your spaceship! Just two of the great games on your Cassette 50, featuring high resolution and user-defined graphics, sprites, sound and music.

1. Moon Base	17. Jet Set	33. Chess
2. Galactic Attack	18. Fun for	34. Chess
3. Space Mission	19. Maths	35. Submarine
4. Laser Landing	20. Memory	36. Battle Game
5. Planet Hit	21. Fun Field	37. Chess
6. Starline	22. Hit	38. Board Game
7. Aster Landing	23. Tunnel Search	39. Chemistry
8. Galaxia	24. Search Game	40. Space Ship
9. The Light	25. Aster	41. Space Search
10. Moon Attack	26. Asteroid	42. Asteroid
11. Space War	27. Search for	43. Chess
12. Knight's	28. Search for	44. Chess
13. Knight's	29. Search for	45. Chess
14. Knight's	30. Search for	46. Chess
15. Knight's	31. Search for	47. Chess
16. Knight's	32. Search for	48. Chess

Names and games may vary for most parts of the world.

© 1985 DoSoft. All rights reserved. DoSoft is a registered trademark of DoSoft.

London: 1-800-555-1234. New York: 1-800-555-1234. Toronto: 1-800-555-1234. Sydney: 1-800-555-1234. Melbourne: 1-800-555-1234. Perth: 1-800-555-1234. Adelaide: 1-800-555-1234. Brisbane: 1-800-555-1234. Gold Coast: 1-800-555-1234. Cairns: 1-800-555-1234. Townsville: 1-800-555-1234. Mackay: 1-800-555-1234. Rockhampton: 1-800-555-1234. Bundaberg: 1-800-555-1234. Gladstone: 1-800-555-1234. Mackay: 1-800-555-1234. Rockhampton: 1-800-555-1234. Bundaberg: 1-800-555-1234. Gladstone: 1-800-555-1234.

SHERKANA COMPUTER SERVICES

1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665	1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665

ALL PROGRAMS ARE BUILT, CHECKED AND TESTED THOROUGHLY. A 7-DAY
LIMITED WARRANTY IS GIVEN ON ALL PROGRAMS. FOR INFORMATION CONTACT US AT
1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665

POOLSWINNER

- THE ULTIMATE POOLSALE PROMOTION PROGRAM
- MASSIVE DATABASE** - Provides a complete, computerized list of 500,000 pool owners with their names, addresses, telephone numbers, to whom they have previously responded to mailings, and more.
 - MASSIVE** - Over 100,000 names for 400,000 pools.
 - ADAPTABLE** - Includes a plan for advertising - offers to meet potential pool sales and offers for program promotion materials to be sent by the user - the company will provide the material.
 - RELIABLE DATA ENTRY** - All data is computerized, double checked and indexed.
 - PROFESSIONAL CONSULTING** - Help supplied with advertising campaigns.
 - PROVEN SUCCESS** - Call for more proof of this program's success.
- AVAILABLE FROM SHERKANA TEL: 503-866-3665, FAX: 503-866-3665, 1600 KERN DRIVE, SHERMAN, OREGON 97150
- PRICE: \$13.95 (incl. shipping)



FORGEMAN 80/6 is a fast, efficient, and easy-to-use program for generating and printing out a list of names and addresses for a pool company. It is available for \$10.95 (incl. shipping).

COURSEWINNER 1.0 is a fast, efficient, and easy-to-use program for generating and printing out a list of names and addresses for a pool company. It is available for \$10.95 (incl. shipping).

FOR INFORMATION CONTACT US AT 1600 KERN DRIVE SHERMAN OREGON 97150 TEL: 503-866-3665

COMMODORE 64 OWNERS

The Ultimate Reference Book



Programming The Commodore 64
by Ron West

Commodore and capable feature and reference book for the Commodore 64. Covers the hardware, software, and programming. Includes a complete listing of all Commodore 64 software. Includes a complete listing of all Commodore 64 software. Includes a complete listing of all Commodore 64 software.

- Programming The Commodore 64 (1984) \$14.95
- Programming The Commodore 64 (1985) \$14.95
- Programming The Commodore 64 (1986) \$14.95
- Programming The Commodore 64 (1987) \$14.95
- Programming The Commodore 64 (1988) \$14.95
- Programming The Commodore 64 (1989) \$14.95
- Programming The Commodore 64 (1990) \$14.95

NAME AND ADDRESS

NAME AND ADDRESS

NAME AND ADDRESS

SJB DISKS LIMITED

BLANK DISKS

- 10 Single Sided Double Density only \$13.95
- 10 Double Sided Double Density only \$17.95
- 30 Single Sided Double Density (Supplied with a Penguin Storage Box) only \$59.95
- 30 Double Sided Double Density (Supplied with a Penguin Storage Box) only \$74.95

- LIFETIME WARRANTY
- FREE FAST DELIVERY

For more information contact us at SJB Disks Limited, 11 Duffield Drive, Huddersfield, Huddersfield, West Yorkshire, England. Tel: 0474 276111

11 Duffield Drive, Huddersfield, Huddersfield, West Yorkshire, England. Tel: 0474 276111

MS 2000 COMMODORE MOUSE



The MS 2000 is a beautifully designed peripheral used to move the cursor simply and quickly around the screen like a drawing pen, paint brush or air spray. This popular device is so natural and friendly to use that it will add an exhilarating new dimension to creative art, CAD, design and business drawings such as graphs, or charts and plans.

The MS 2000 is a high quality mouse with a RUBBER COATED BALL which is quiet and will not lose accuracy through slippage. The hardware incorporates an OPTICAL ENCODING technique in the mouse which has a resolution of 500 points to the inch. It is accurate, reliable and repeatable.



ONLY £64.95 INCL. MS2000 + CASSETTE. ROM CARTRIDGE OPTION £14.40

WIGMORE
HOUSE LIMITED

32 Seville Row, London W1X 1AG. 01-734 0173 — 01-734 8826

Frightened by the word — 'DATABASE'?

Own a disk drive? — YES?

BABYBASE

is the simple answer

BABYBASE is a versatile and easy-to-use information storage and retrieval system. By using simple menus, you can:

- Store details such as Names, Addresses, Phone Numbers, Birthdays, Stock Items, Club Memberships, Recipes, etc. Minimum of over 700 records per diskette.
- Retrieve records by specifying Search Criteria, Record Number, just Browse through or Amend records.
- BABYBASE uses Relative Files enabling access to ANY record on disk in mere seconds!
- Write, Save, Print and Load memos or Notes to yourself or anyone by using the MEMOWRITER mini word processor.
- Link or Chain Memo Files or Standard Letters 'pulling' details from records Automatically on Printing.
- Format and Validate Diskettes, Scratch Files and view Directories.

BABYBASE works with Commodore 1540/1541/1570 disk drives.

BABYBASE can use Commodore 1525, 1526, DPS1101, MPS 801/602 printers.

BABYBASE's versatility means you can use the same program diskette and any information you've entered on any of the following machines:
Commodore C-64, SX-64, Plus/4, C-16 and C-128.

Please send me..... copies of BABYBASE at £26.95 each inc. p&h.
I enclose cheque/PO for total.....made payable to SOFTWARE DESIGN.

Name

Address

Postcode

Tel No.....

Please send to SOFTWARE DESIGN, 23 Beedystard Road, Nelson, Lancs BB9 5LL

Please allow 14 days for delivery, alternatively you can order through SOFTPOST catalogue.

HERE

COMMODORE 64 GAMES LIBRARY

- 1200 plus titles
- Return of post service guaranteed
- Full 7/14 day hire
- Up to 4 games at once
- Only originals used
- Each member gets a full joining kit
- Weekly hire as low as 50p

No joining fee required — first 2 games free
What do you have to lose?
Write for details to:

COMMODORE 64 GAMES LIBRARY

c/o The Yorkshire Software Library
Unit M11, Stanningley Industrial Centre
Pudsey, West Yorkshire

EVER HAD A LOADING PROBLEM?

Then read off for WILKINS TAPE HEAD ALIGNMENT KIT — no one should be without one!

By the more common cause of loading failure is a bad alignment of your tape heads. We devised a kit to correct a most of alignment with our kit and you will have been chosen to receive this kit. Our alignment kit will allow you to precisely set up your tape heads for the most possible loading success. Binary cassette technology is an excellent alternative to magnetic tape and provides simplicity of use for loading programs.

Our kit consists of:
1) Alignment wheel (cassette containing software copy) and two program 1/2" & digital information on cassette. 2) A rotation indicator 3) A loading meter 4) A digital information cassette with program 5) A Loading Meter — 1/2" digital information loading systems about £100.00 for 50 units

COPY KING

- Revolutionary new system for FAST LOADING programs.
- Copies many of the 100 programs!
- Simple to use, picture guides, etc. handled with ease.
- Each cassette or master disk 1 MB or less (less than 50p).
- Extremely accurate — no technical knowledge required.
- Additional hardware and no special external devices are required.
- It's better than 100% magnetic tape (cassette) performance.
- Buy the market leader. Street value of £1.95.

HALF PRICE SPECIAL THIS MONTH!

Convenient Lighting Load together for only 49.95. Usual £13.95 each

CDPCAT

- So highly popular that software for Commodore standard use loading systems.
- Thousands within the last year.
- Copies almost all programs but will work using the Commodore standard system only disk type.
- Wizard-like options. Cassette tape copy.

LIGHTNING LOAD II

- Contains almost of your slow loading game programs like Super Action II, Rapid Loading systems etc.
- The latest and best loading kit on the market for Commodore program.

Downloaded software. Downloaded software also. Commodore WII 12.8 software from Reproduction of order. CDPCAT-PC to

**WIZA 80 SOFTWARE (Dept. 6)
58 THE MARLES, EXMOUTH, DEVON EX8 4NE**

"* TAP BACK-UP DEVICES *

DCL — Interface

The DCL 1 uses two Commodore's own loading and program loading (using two Commodore No. 2) or alternatively using a BACK-UP 120p as alternative 2. 7 Programs used. 7. DRIVE AS SLOW. PRICE £120.00

DCL4 Interface

The DCL4 DCL 1 for those with two Commodore's own loading and program loading (using two Commodore No. 2) or alternatively using a BACK-UP 120p as alternative 2. 7 Programs used. 7. DRIVE AS SLOW. PRICE £110.00

DCL4A Interface

EXPLAN to the DCL4 for those with an Amstrad CPC 464. 7 Programs used. 7. DRIVE AS SLOW. PRICE £70.00

"* BACK-UP PROBLEMS SOLVED *

Alignment Tape

This new alignment tape from WEST PRODUCTIONS is used for the alignment of the Commodore's tape heads. It is a high quality tape made and produced with a special tape and will ensure that your tape heads are perfectly aligned. 7 Programs used. 7. DRIVE AS SLOW. PRICE £120.00

Tape Head Demagnetiser

The magnetic demagnetiser is used to clean your tape heads and to demagnetise the tape. It is a high quality tape made and produced with a special tape and will ensure that your tape heads are perfectly aligned. 7 Programs used. 7. DRIVE AS SLOW. PRICE £70.00

"* OTHER TRILOGIC PRODUCTS *

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

WEST is the only office in "LONDON" WEST through the company (WEST) £120.00

MIDLAND COMPUTERS LIBRARY

**ATTENTION COMMODORE 64/128 USERS
& SUBSIDIARY OF PLATINUM GOLD**

- OVER 4,000 different titles available for hire for the **COMMODORE, SPECTRUM, BBC, AMSTRAD, ATARI** and **MSX** computers.
- **ARCADE, ADVENTURE, EDUCATIONAL** and **BUSINESS** software too.
- **HIRE PRICES** from only 35p INC. VAT.
- **20% DISCOUNT** on all purchase software.
- **FREE CATALOGUE**.
- **FREE HIRTS AND TIPS**.
- **FAST RETURN OF POST SERVICE** (if returned and given).
- **ALL GAMES** manufactured **ORIGINALS** with full documentation.
- **OVER 6,000** satisfied members.
- **EUROPEAN** members welcome.
- Fully computerised system keeps track of your order, the price (including in being the most professional Library in the United Kingdom), with staff of 14 advisors what the word service means. Backed by our own software company and programmers.

MIDLAND COMPUTER LIBRARY

28 Colgate Street, Worcester WR1 3LS. Tel: 0455 61692
Please enclose 20p for LHM Membership or order SAE for free catalogue (no postage).

Name:

Address:



Connect it up

I OWN a 64 and a Qume Data-180 printer. I have purchased a Centronics adapter, The Commodore Connector, and have found that this is satisfactory for things, but I cannot get a direct using device number 2 as stated in the directions. Is this an adapter problem? Would it be possible to connect the printer via the serial socket?

I am also having problems with text graphics using Boris Allen's book *Graphic Art*. I have managed to run Lo-res Graphics, but cannot get the turtle routine to work. Is there an error in the program.

J C King
Newbury
Berks

BECAUSE your printer responds to OPEN 1,A, it will not respond directly to device number 2, only 4. OPEN 1,A,B will not respond directly to device number 5, only 4. OPEN 1,"testing"; CLOSE 1 will confirm this. The pinout of the serial I/O connector is serial **REQIN**: 2, **DATA**: 3, **serial AEN** IN/OUT: 4, **serial CLK** IN/OUT: 5, **serial DATA** IN/OUT: 6, **serial**. The pin arrangement is:



This socket provides serial **REQ** as required for the 1841 and CBM printers. I assume that you have an RS232C interface. Bits 2-7 of data A (**REQIN**) are used to control I/O, as follows: Bit 2, serial AEN output; Bit 4, serial clock output; Bit 5, serial clock input; Bit 7, serial data input. The data direction register (**DDIR**) for data port A is **REQIN**. Address the printer with OPEN 1,A as above — remember the Commodore converts serial **REQ** to Centronics.

As regards the turtle program, there is a bug in the 1870S, which should read FOR I = 1024 TO 1023 (not 1025). *Graphic Art* is the CBM 64 by Boris Allen is published by Sandstone Books at £5.95.



On the move

I HAVE recently purchased an SX-64 portable. Although there is no cassette port, I would have thought that there was some way to load cassette programs. Would a device such as the Incept permit communication via the serial port? I understand that there is also some sort of "black box" on the market which allows the 64 and the Vic to share peripherals.

R B Cameron
Dorset
Dorset

THERE IS no easy solution — in the case of very simple BASIC programs where there is no memory conflict between the 64 and the Vic, you can obviously load/ save programs into the Vic, save it to disk and use on the SX-64. However, the Interop communications with BASIC devices, not cassette decks, and although I have seen details of modifications allowing a cassette port to be added to the SX-64, they involve extensive modification, changes to the PCB and kernel device software, so the risk and effort involved may not be worth it.

I would be interested to hear from any reader who has a simple method for loading cassette software into the SX-64, as far as sharing peripherals.

Decimals placed

I USE A TI89 for mathematical astronomy. This calculator to 13 decimal places, although it displays to only 10. I have a 64 with disk drive, and would like

to use this to add sophistication to my programs, but it only has accuracy to eight decimal places. Is there an EPROM or any other method by which I can achieve 13 decimal place accuracy with trig functions.

E J Mansford

Rye

East Sussex

I HAVE NOT heard of any suitable peripheral, but it is possible to write a program which will give the required accuracy. If you are very keen, I would suggest Chapter 16 of *Boris Allen's Programming the PET/CBM*. The principles explained apply equally well to the 64, and deal with the way the numbers are stored, and the way the BASIC interpreter always lays them. The book is still available from Bitlines Ltd, Star Road, Farnbridge Green, Horsham, W. Sussex, price £14.

Playing on the C16

I HAVE A C16, and I'm having a problem with a program I'm writing. I need to know how to make a character in the program, controlled by the player, be unable to enter an area in the centre of the screen (a character square). Can you help?

Roger Abbot

Wellington

New Zealand

IF YOU use a simple, unique character such as "*" to represent the player, you can PEEL the screen to find out where it is at any stage of the game. The C16 screen consists of 40 columns by 20 rows, so we will assume that your forbidden window starts at the seventh row and finishes at the 17th, and starts at the 15th column and finishes at the 26th. In terms of screen memory, these are defined by 307,157,3147 and 3777. Use routines similar in principle to the following:

```

100 INPUT "move?"; K%
101 REM or use joystick or key
    input routine
110 GOSUB 10000: REM test for
    valid inputs
120 IF F=-1 THEN F=0:
    GOTO 100: REM rejected
    inputs
130 POKE P,40: POKE P-1024,

```

colour: REM screen code for "*" and colour value

```

140 rest of program
150 P=3072+K*40+C16P
160 GOTO 100: REM 4000 THEN F=1:
    RETURN
170 FOR J=1 TO 10: REM
    K=0 TO 9
180 IF C307+K*40+J=0:
    F THEN F=1:J=10: REM
    F=0: RETURN
190 NEXT K: NEXT J
200 RETURN

```

You can see from the above that the character is only moved after 1000 if the move is accepted. Rejected moves are those outside the screen, negative values for K or C, and those in the 10 x 10 grid in the centre.

Vexing Vic 20

I HAVE about 70 cartridges for the Vic 20, and have found that some, such as *Dandy Duck* and *Final Orbit* by Sirius, and *Goldmine* by Mirovax, do not work properly on UK Vics; they either have a flicking screen while running, or the screen window is located off centre, with the cursor and joystick failing to coordinate it. I could understand if the difference were to occur on just one cartridge, or on all of them, but why just these three?

D P Goodman

17 Drove

Berks

THERE ARE some international variations in the Vic 20 design, and if this is not allowed for by the software author then you may get some problems.

This usually arises when the protection methods used are too specific to the machine's ROM. For example, the timing for the interrupt controlling the T164 clock, and also the timing for tape and RS232C, may require different ROM contents. Other factors include characters, keyboard and power supply.

You might be able to solve your problem by connecting an external board by ribbon cable to the ROM kernel module, and use a manual switch to activate it while the Vic is switched off. You would have to obtain the US ROM chip from the same source as your cartridges.

I.C.P.U.G.

the Independent Commodore Products User Group

is the largest and most friendly Computer Club in the country

- ★ Over 80 local groups with regular meetings
- ★ Superb Newsletter — 80 plus pages of reviews, news and information every two months
- ★ Free Software Library
- ★ Help and Advice
- ★ Machine Code (8502/8510) course
- ★ Discount Scheme
- ★ Subscription only £10 per year (U.K.)

If you are seriously interested in using or programming any Commodore computer, then joining ICPUG is a must!

For full details, send a stamped, addressed envelope to:

ICPUG Membership Secretary
Jack A. Cohen
 30 Brancaster Road, Newbury Park,
 Iford, Essex SS2 7EP



This boy is a fugitive.



COMMODORE 64
DYNAMITE SOFTWARE
64 COMPATIBLE

<p>1-10000 £19.95</p> <p>10000 (one thousand) calculator for the 64, 64000 (ten thousand) calculator for the 64000, 100000 (one hundred thousand) calculator for the 64000, 1000000 (one million) calculator for the 64000, 10000000 (ten million) calculator for the 64000, 100000000 (one hundred million) calculator for the 64000, 1000000000 (one billion) calculator for the 64000.</p> <p>1-10000000 £14.95</p> <p>10000000 (ten million) calculator for the 64, 100000000 (one hundred million) calculator for the 64, 1000000000 (one billion) calculator for the 64.</p> <p>1-100000000 £24.95</p> <p>100000000 (one hundred million) calculator for the 64, 1000000000 (one billion) calculator for the 64, 10000000000 (ten billion) calculator for the 64.</p> <p>1-1000000000 £26.95</p> <p>1000000000 (one billion) calculator for the 64, 10000000000 (ten billion) calculator for the 64, 100000000000 (one hundred billion) calculator for the 64, 1000000000000 (one trillion) calculator for the 64.</p> <p>1-10000000000 £27.95</p> <p>10000000000 (ten billion) calculator for the 64, 100000000000 (one hundred billion) calculator for the 64, 1000000000000 (one trillion) calculator for the 64, 10000000000000 (ten trillion) calculator for the 64.</p> <p>1-100000000000 £30.00</p> <p>100000000000 (one hundred billion) calculator for the 64, 1000000000000 (one trillion) calculator for the 64, 10000000000000 (ten trillion) calculator for the 64, 100000000000000 (one hundred trillion) calculator for the 64.</p> <p>1-1000000000000 £31.95</p> <p>1000000000000 (one trillion) calculator for the 64, 10000000000000 (ten trillion) calculator for the 64, 100000000000000 (one hundred trillion) calculator for the 64, 1000000000000000 (one quadrillion) calculator for the 64.</p> <p>1-10000000000000 £33.95</p> <p>10000000000000 (ten trillion) calculator for the 64, 100000000000000 (one hundred trillion) calculator for the 64, 1000000000000000 (one quadrillion) calculator for the 64, 10000000000000000 (ten quadrillion) calculator for the 64.</p> <p>1-100000000000000 £35.95</p> <p>100000000000000 (one hundred trillion) calculator for the 64, 1000000000000000 (one quadrillion) calculator for the 64, 10000000000000000 (ten quadrillion) calculator for the 64, 100000000000000000 (one hundred quadrillion) calculator for the 64.</p> <p>1-1000000000000000 £37.95</p> <p>1000000000000000 (one quadrillion) calculator for the 64, 10000000000000000 (ten quadrillion) calculator for the 64, 100000000000000000 (one hundred quadrillion) calculator for the 64, 1000000000000000000 (one quintillion) calculator for the 64.</p>	<p>1-10000000000000000 £39.95</p> <p>10000000000000000 (ten quadrillion) calculator for the 64, 100000000000000000 (one hundred quadrillion) calculator for the 64, 1000000000000000000 (one quintillion) calculator for the 64, 10000000000000000000 (ten quintillion) calculator for the 64.</p> <p>1-100000000000000000 £41.95</p> <p>100000000000000000 (one hundred quadrillion) calculator for the 64, 1000000000000000000 (one quintillion) calculator for the 64, 10000000000000000000 (ten quintillion) calculator for the 64, 100000000000000000000 (one hundred quintillion) calculator for the 64.</p> <p>1-1000000000000000000 £43.95</p> <p>1000000000000000000 (one quintillion) calculator for the 64, 10000000000000000000 (ten quintillion) calculator for the 64, 100000000000000000000 (one hundred quintillion) calculator for the 64, 1000000000000000000000 (one trillion quintillion) calculator for the 64.</p> <p>1-10000000000000000000 £45.95</p> <p>10000000000000000000 (ten quintillion) calculator for the 64, 100000000000000000000 (one hundred quintillion) calculator for the 64, 1000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000 (ten trillion quintillion) calculator for the 64.</p> <p>1-100000000000000000000 £47.95</p> <p>100000000000000000000 (one hundred quintillion) calculator for the 64, 1000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000 (one hundred trillion quintillion) calculator for the 64.</p> <p>1-1000000000000000000000 £49.95</p> <p>1000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000 (one hundred trillion quintillion) calculator for the 64, 1000000000000000000000000 (one quadrillion quintillion) calculator for the 64.</p>	<p>1-10000000000000000000000 £51.95</p> <p>10000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000 (one hundred trillion quintillion) calculator for the 64, 1000000000000000000000000 (one quadrillion quintillion) calculator for the 64, 10000000000000000000000000 (ten quadrillion quintillion) calculator for the 64.</p> <p>1-100000000000000000000000 £53.95</p> <p>100000000000000000000000 (one hundred quadrillion quintillion) calculator for the 64, 1000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000000 (one hundred trillion quintillion) calculator for the 64.</p> <p>1-1000000000000000000000000 £55.95</p> <p>1000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000000 (one hundred trillion quintillion) calculator for the 64, 1000000000000000000000000000 (one quadrillion quintillion) calculator for the 64.</p> <p>1-10000000000000000000000000 £57.95</p> <p>10000000000000000000000000 (ten quadrillion quintillion) calculator for the 64, 100000000000000000000000000 (one hundred quadrillion quintillion) calculator for the 64, 1000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000 (ten trillion quintillion) calculator for the 64.</p> <p>1-100000000000000000000000000 £59.95</p> <p>100000000000000000000000000 (one hundred quadrillion quintillion) calculator for the 64, 1000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000000000 (one hundred trillion quintillion) calculator for the 64.</p> <p>1-1000000000000000000000000000 £61.95</p> <p>1000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000000000 (one hundred trillion quintillion) calculator for the 64, 1000000000000000000000000000000 (one quadrillion quintillion) calculator for the 64.</p>	<p>1-10000000000000000000000000000 £63.95</p> <p>10000000000000000000000000000 (ten quadrillion quintillion) calculator for the 64, 100000000000000000000000000000 (one hundred quadrillion quintillion) calculator for the 64, 1000000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000000 (ten trillion quintillion) calculator for the 64.</p> <p>1-100000000000000000000000000000 £65.95</p> <p>100000000000000000000000000000 (one hundred quadrillion quintillion) calculator for the 64, 1000000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000000000000 (one quadrillion quintillion) calculator for the 64.</p> <p>1-1000000000000000000000000000000 £67.95</p> <p>1000000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000000000000 (one hundred trillion quintillion) calculator for the 64, 1000000000000000000000000000000000 (one quadrillion quintillion) calculator for the 64.</p> <p>1-10000000000000000000000000000000 £69.95</p> <p>10000000000000000000000000000000 (ten quadrillion quintillion) calculator for the 64, 100000000000000000000000000000000 (one hundred quadrillion quintillion) calculator for the 64, 1000000000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000000000 (ten trillion quintillion) calculator for the 64.</p> <p>1-100000000000000000000000000000000 £71.95</p> <p>100000000000000000000000000000000 (one hundred quadrillion quintillion) calculator for the 64, 1000000000000000000000000000000000 (one trillion quintillion) calculator for the 64, 10000000000000000000000000000000000 (ten trillion quintillion) calculator for the 64, 100000000000000000000000000000000000 (one quadrillion quintillion) calculator for the 64.</p>
--	---	--	--

At internationally recognised prices never working hard. Thousands and tens of...

OR... MADE BY ALIEN



THE FINAL CARTRIDGE[®]

THE FIRST OUTSIDE OPERATING SYSTEM FOR THE CBM 64

This new operating system built in a cartridge does not use any memory and is always there. Compatible with 95% of all programs.

Features:

- **DIRTY TURBO** - 8 times faster disk access - loading and saving
- **TAPE TURBO** - 10 times faster, even with files - normal Commodore commands - compatible with standard software
- **ADVANCED CENTRONICS INTERFACE** - compatible with all the best known printers (graphics and Command line printer programs. Prints all the Commodore graphics and control codes (important for listings).

Advanced screen-dump facilities. Prints Low-Res, Hi-Res and Multicolor. Full-page! (Easiest-to-games and word processors, like Double Double Plus etc. Searches automatically for the necessary address of the picture).

- **20K EXTRA RAM FOR BASIC PROGRAMS AVAILABLE** - Two more commands - Memory dump - Memory sort etc. - They move 160 bytes with one key-press (even typed anywhere in the 64K Ram of the Commodore. Can be used with strings and variables).
- **BASIC 4.0 COMMANDS** - like Discs, Drive, Dropend, Closing, etc.
- **BASIC DEBUGKIT** - with Auto, Memory, Control, Command, Search, Print, Help, Quit, etc.

• **PREPROGRAMMED FUNCTION KEYS** - Run, Load, Save, Catalog, Disk commands, List, previous and list and listlines.

• **KEYBOARD EXTRA'S** - Allows you to define part of a line, clear and scroll, menu settings, menu cursor to lower left-hand corner. Files and Systems in files. Try command operates your programs as if it were on.

• **COMFORTABLE EXTENDED ML POSITION** - with advanced fast scrolling up and down. Backscrolling 400.

• **BASIC SWITCH** - wants to monitor, resets with old, resets to Hi-Res printing, resets every printed program.

• **ON/OFF SWITCH** - you keep via equal hard disk one.

12 Months triple guarantee guarantee.

18 Days money back guarantee. 4 you are dissatisfied.

SPECIAL INTRODUCTORY PRICE

FOR ONE € 50,- FOR TWO € 37,- each

FOR THREE OR MORE € 30,- each

Don't wait for your friends
ORDER ONE NOW!!!
Just pay the difference if you
reorder within a month.

H.P.
L. 1344 (1311-1312)

U.K. ORDERS: Barclays and Associates of
Computers should be made out to
H. P. Computers, 8 Hornbeam Walk,
Wilton Essex CM8 2 5J England.
Telephone: 0376 - 511471.

Copyright with registered trademark. H.P. Company, Philadelphia, U.S.A.
202 18th Philadelphia, Pennsylvania, Pa. 19103. 1984-1985. 100% CBM 64 compatible.

CENTRONICS INTERFACES



MODEL 9200HG - DOES IT ALL!

Full Commodore graphics and special characters, tabs, dot graphics etc. Plus 8K buffer.

£64.99

ALSO:

MODEL 90000 - less graphics £48.99

MODEL 90000G - with graphics, no buffer £58.99

All models software transparent - no driver needed.
Connect to CBI or CBI II or daisy-chain to disk drive.

FCC

SYSTEMS LIMITED
THE LODGE
WOODLANDS ROAD
BERRIOTT
SOMERSET TA16 5HF
TEL: CREEKHEAD (0458) 73442
PRESTEL MAILBOX 846073442

Prices include VAT
Please add £.00 p.p.

British registered
ISO 9001 certified



This girl is dangerous.



Electrosound 64 and CAD 64 from Orpheus

CAD 64



£14.95

CAD 64

Computer Aided Design on your Commodore. Design 3D objects on the screen, rotate them, expand them, amend them and print them out.

Use CAD 64 at home or at school to teach drawing, graphics design or simply for fun.

Electrosound 64



£14.95

ELECTROSOUND 64

The complete electro-sound package for the Commodore 64. Professional music, professional music.

Use Electrosound 64 to create incredible music or sound effects. Play the keyboard, manually, with some real keyboard or build up complete sentences and dialog. Electrosound affects you to design your own sounds with full control of rhythm, speed, timing, filtering and reverb.

Orpheus Ltd, The Drive, East 1, Church Farm
Hales, St. Cleveon, W. Weymouth, Dorset, BH24 5JF
Tel: Dorchester 01752 734551 Fax: 01752 734552

ORPHEUS
NEVER LOOK BACK

• AIR • COMBAT • EMULATOR •
• BY CASCADE GAMES •

£10.95
INC. FREE WATCH
AND POSTAGE

T

HE FASTEST GAME ON TWO WINGS!
AND A FREE MULTIFUNCTION CALCULATOR WATCH

The ACE COMBAT series offers a complete package for any PC fighter pilot. Each title has a complete package for the PC, including the game, manuals, and a free multifunction calculator watch. The ACE COMBAT series is a complete package for the PC, including the game, manuals, and a free multifunction calculator watch.

ACE - EXPERIENCE IT NOW!
ACE COMBAT is the most advanced and complete fighter simulator ever created. It features a complete package for the PC, including the game, manuals, and a free multifunction calculator watch. The ACE COMBAT series is a complete package for the PC, including the game, manuals, and a free multifunction calculator watch.

Four titles to choose from at one price! ACE COMBAT is the most advanced and complete fighter simulator ever created. It features a complete package for the PC, including the game, manuals, and a free multifunction calculator watch.

ACE - EXPERIENCE IT NOW!
ACE COMBAT is the most advanced and complete fighter simulator ever created. It features a complete package for the PC, including the game, manuals, and a free multifunction calculator watch.

ACE COMBAT
ACE COMBAT is the most advanced and complete fighter simulator ever created. It features a complete package for the PC, including the game, manuals, and a free multifunction calculator watch.

FREE 20 KEY MULTIFUNCTION CALCULATOR WATCH
FREE 20 KEY MULTIFUNCTION CALCULATOR WATCH



FREE!!!

Order ACE today and receive this beautiful
20 KEY MULTIFUNCTION CALCULATOR WATCH

ABSOLUTELY FREE!!!

**PRICE £10.95 (GBP) £6 and
¥620 (JPY)**

Postage £1.00 in UK. Add £1 for overseas orders.

Allow 28 days for delivery.

Write to Cascade Games Ltd, P.O. Box 100, ...
or through our hot line by telephone (see no. 100-0000).
For more details on our products and services, contact our
customer care on our 24hr service hot line (see no. 100-0000).

ORDER FORM (PLEASE PRINT)

Name: _____ Surname: _____

UK Rest of Europe Rest of Europe USA & Canada

Address: _____

Postcode: _____

Country: _____

Please complete and send to:

Cascade Games Ltd,
100-0000 Street,
London, England,
UK. Tel: 100-0000



ACE - EXPERIENCE IT NOW!

© 1995 Cascade Games Ltd. All rights reserved.

SOFT LINK

SPECTRUM-
COM 84128
SOFTWARE
LIBRARY



18 Dunley Gardens
Newtownabbey
Co. Antrim
BT37 9HC

- HIRE FROM ONLY 75p PW INC. P&P
- ALL TOP CHART TITLES AVAILABLE
- HUGE LIBRARY OF EX-CHART TITLES AVAILABLE
- BUY TOP CHART TITLES AT CLUB DISCOUNT PRICES
- BUY MANY EX-CHART TITLES AT EXTREMELY LOW PRICES
- TAPE (CARTRIDGE AND DISK ALSO ON COM) AVAILABLE
- CLUB CATALOGUE
- CLUB NEWSLETTER OFFERING HINTS AND TIPS, ETC.
- FREE MONTHLY DRAW
- COMPETITIONS
- ALL SOFTWARE AND DOCUMENTATION ARE ORIGINALS
- ALL POSTAGE CHARGES PAID BY SOFT-LINK
- LIFE MEMBERSHIP JUST £2.00 INC. FIRST HIRE FREE!

Send cheque/PO made payable to "SOFT-LINK", or send a large s.u.s. for more details, at our address above.

Lightwave



The single-handed STICK — unique rotary 80 switches — standard 8 pin D plug — made by John Hall, West Germany — £12.99.

REVIEWS ...

Your Spectrum ... "A snap at £12.99, so if you're a stickler for fast action games, get stuck in ..."
Your Computer ... "Very sensitive and less tiring to use than conventional joysticks ..."
CompuNet ... "Excels in sports games ..."
Commodore Computing ... "A great help for the more complicated flight simulation games ..."
MSX User ... "Particularly good for the frantic sports simulations from Activision and Zenix ..."

Also full range of John Hall Great high quality computer games.

At your LOCAL DEALER or direct from LIGHTWAVE. Send s.u.s. for price list — state Amstrad, Commodore, Apple.

The STICK £12.99 + £1.00 p.p.s. Cheques and POs to:

LIGHTWAVE LEISURE LTD

P.O. Box 23

WALLASEY, MERSEYSIDE L44 1EW
051-639 5050

SOFTWARE TRENDS TECHNOLOGY

VIC-20 and COMMODORE 64 OWNERS



3 TEMPLATES TO CHOOSE WORKING WITH YOUR OWN BASIC, EASYSCRIPT AND INSIDE QUOTES
ONLY £7.50 inc. VAT and postage

SPECIAL

PRICE	300	500	1000
300 BASIC	£5.00	£7.50	£10.00
300 EASYSCRIPT	£5.00	£7.50	£10.00
300 INSIDE QUOTES	£5.00	£7.50	£10.00
300 BASIC, EASYSCRIPT AND INSIDE QUOTES	£15.00	£22.50	£30.00
300 BASIC, EASYSCRIPT AND INSIDE QUOTES WITH 3000 WORDS	£20.00	£27.50	£35.00
300 BASIC, EASYSCRIPT AND INSIDE QUOTES WITH 6000 WORDS	£25.00	£32.50	£40.00
300 BASIC, EASYSCRIPT AND INSIDE QUOTES WITH 12000 WORDS	£30.00	£37.50	£45.00

NOTE: 3000 WORDS TO COPY AND 6000 WORDS TO COPY AND 12000 WORDS TO COPY AND SEND CHECKS OR POSTAL ORDERS TO: SOFTWARE TRENDS TECHNOLOGY LTD, 10/11A HAYWARD, BIRMINGHAM B15 2JG. TEL: 0121 709 4999.

SOFTWARE TRENDS TECHNOLOGY

Customer details for: _____
Name and address: _____
Name: _____
Address: _____

Form 1000

BUSINESS SOFTWARE FOR COMMODORE 64 & 128

PURCHASE LEDGER £80 + VAT
Daybook, detailed due for payment report, VAT analysis, list of current balances, labels, 30 'live' transactions on each account capacity, 200 accounts on 1541 or 4040, 800 on 8050 or 1200 on 8250.

SALES LEDGER AND INVOICING FOR COM64 200 customer accounts invoices tied out to your own design. Statement daybook, aged debtors, address labels etc.

£88.33 + VAT

FINAL ACCOUNTS £80 + VAT
Full double entry book keeping to final balances, profit and loss and balance sheet. Includes special entry routines for purchases and sales and two types of journals, single debits matching single credits and groups of up to 100 of each. Monthly analysis, 20 user definable reports, detailed audit trail printed or screen display for single accounts or all the counts, 200 named nominal accounts on 1541 or 4040, 700 on 8050 or 8250.

INTEGRATED ACCOUNTS £190 + VAT
All the above software combined into one integrated package also includes stock control, but this is run integrated with the rest.

PAYROLL £80 + VAT
The new 4.11 rules, password protection, hourly, weekly and monthly basis, 7 overtime/piecework rates, all tax codes, pension and superannuation deductions, s.a.p., etc.

Full refund on any item returned within 21 days.

Write or telephone for details and complete list.

Electronics Aids (Tewkesbury) Ltd

82 High Street, Evesham, Wars. WR11 4G
Telephone: 0388-49339 or 0582-87300

Special Offer

Save money on the **COMMODORE 64** **WHOLE MEMORY GUIDE**



MELBOURNE HOUSE'S Commodore programming books are among the most popular titles available for the machine — and now we're offering you the chance to get copies of the latest title hot off the press, and save money too!

- The *Artist's Commodore 64 Whole Memory Guide* is more than just a memory map — instead of just giving memory locations, it offers detailed descriptions of each location, explaining what it's for and how it can be used by the programmer. The book has three main sections: the RAM guide, the I/O guide, and the ROM guide, which includes a complete and annotated disassembly of the 64's ROMs.
- For basic programmers, the book tells you how to use the system variables to gain control over your 64. For machine code programmers, *The Commodore 64 Whole Memory Guide* helps you to see the machine's subtleties, understand parameter passing, and cope with data errors.
- With appendices on variations in the kernel ROM, hex/oct conversion and ASCII codes, *The Commodore 64 Whole Memory Guide* is an essential purchase for serious programmers. The book costs £9.95 in the shops, but by arrangement with Melbourne House we are able to offer it at £7.95 including postage and packing, a saving of £2.
- To get your copy, fill in the form and post it to Melbourne House Book Centre, Commodore Horizons, 12/13 Little Newport Street, London WC2N 7PP. Please enclose payment by crossed cheque or postal order, not cash, made out to Melbourne House Publishers Ltd.

Please send me _____ copies of *The Commodore 64 Whole Memory Guide* by Tim Arnot, at the special offer price of £7.95 per copy. I enclose a cheque/postal order for £_____ made out to **Melbourne House Publishers Ltd.**

NAME _____

ADDRESS _____

POSTCODE _____

To: Melbourne House Book Centre, Commodore Horizons, 12/13 Little Newport Street, London WC2N 7PP

A NEW MUSIC^{AL} EXPERIENCE SYNDROMIC MUSIC



Sound Buddy

It's a new concept in computer based music for all the family. Featuring fully programmable sounds and rhythms, one finger and finger chords, and bells, triangles, drums, maracas, it can play an entire sequence by recording your own songs.

The SBL Sound Buddy comes complete with a player keyboard for the CMK 49 or may be played by the only 49-key CMK 49 keyboard. This is a complete range of premium melodic and range already programmed for your instant enjoyment.

At only £29.95 you can give your Commodore a new musical experience.

CMK 49 Keyboard

The CMK 49 is a flexible top quality keyboard with 49 individual keys.

It comes complete with software which can program the SBL into either the CMK 49 to create the most amazing sounds and melodic effects. It has 48 pre-programmed sounds on board plus a 48-key Musical Keyboard function allowing you to build up a musical system around your 64 already having 40 pre-programmed sounds on board.

For just £29.95, the CMK 49 gives you musical versatility.

Syndromic Music can supply these items separately by direct mail or if you order them together at the incredible price of **£59.95!**

Please fill out the coupon below and return it with your payment to: **Syndromic Music, 20a Drive Avenue, London NW6 6JG** (or ring 041 341 124).

The SBL range of computer based hardware and software can turn your Commodore 64/128 into a synthesiser. Some retain an external keyboard or MIDI interface.

The SBL CMK 49 allows you complete control over the CMK 49's 49 keys while the SBL Sound Buddy lets you control an entirely new sound chip for a more superior sound!

All SBL instruments may be added to with new software or hardware, both the CMK 49 and Sound Buddy can have a MIDI interface connection which allows you to control other keyboards and synthesizers.

Just expand your system when you want to!

Playing Keyboards

Full of the presses, this book takes you gently through playing keyboards like the Sound Buddy, a CMK 49, 48 written by Roger Evans and Vince Hill, the book comes complete with lots of easy lessons, playing hints and music including *Paradise* and *Hello*. You can also use the book with a variety cassette making your learning even simpler.

CREATIVE MUSIC - SYMPLY THE BEST

NAME _____
ADDRESS _____

I would like to order the following:

		Price	Quantity
SBL Sound Buddy	— Disk/Cassette	£ 59.95	_____
SBL CMK 49	— Disk/Cassette	£ 29.95	_____
THE PACKAGE 11	— Disk/Cassette	£ 199.00	_____
Playing Keyboards	— Book & Cassette	£ 25.95	_____
Playing Keyboards	— Book only	£ 12.95	_____

All prices are inclusive of VAT/postage/packing/insurance.
I enclose a cheque/postal order/money order for £_____ made payable to: Syndromic Music.

If paying by Access please quote card number and exp. date: ACCESS CARD

No. _____ Signature _____
Please allow 21 days for delivery.

TOOLKIT IV

COMPLETELY NEW - INCLUDES ALL THIS ...

SOFT COPY - allows you to load ANY file on any track or sector, including write and overwrite tracks, data and formatted sectors, and tracks underneath HEAD (000/0). Supports damaged sectors.

FORMATTER - formats an entire disk, or format any individual track or half-track from track 0 to 99. Replaces any of 96 parameters following tracks per zone, sectors per track, file density, disk pack size, data bits per byte, header and data bits per byte, header and tail gaps, off bytes, spins etc. This allows you to create or update a completely unique disk format, and it formats an entire disk in less than 10 seconds.

HEADMAP EDITOR - updates and displays all header information including off-byte, headmap and leader gap. Replaces the entire header and header gap. Parameter screens also edit any 80000 bit-gaps.

DISK LOGS - the fastest, most thorough error detector ever gives you all essential parameters for tracking up densities all errors, errors and unformatted sectors, data and unformatted tracks, bad tracks, from track 0 to 99.

ERROR MASK - masks 00, 01, 02, 03, 07 and 20 bad tracks on any individual track and restores any necessary parameters, and even restores data under the original error. Also includes a method of preventing your disks from being copied by most disk copiers.

FAST DATA COPY - copy a full disk with one drive in less than two minutes. Copy a partially filled disk in even less time.

FAST FILE COPY - transfers files over five times faster than normal loading and saving.

COMPACTOR - will compact any machine code program. Can compact files by 50% over disk space restrictions.

DISK LOCK - the ultimate directory and file manipulation utility. Sort the directory in the way you like. Full screen version. Displays file date, time and volume. Displays any file with standard and unformatted up-codes. GET SAM, expanded file, file name.

DIRTY, DIRTY COPY FROM IMAGE, DIRTY MOVE, DIRTY LOGS, BASIC COMPACTOR, DIRTY COPY TO IMAGE, DIRTY COPY TO DISK, DIRTY COPY TO TAPE - give the ultimate amount of complete disk file speed and will more than any other software on the disk even a few little surprises we aren't telling anyone about.

TOOLKIT IV is undoubtedly the most comprehensive disk utility available for the IBM drive, yet it couldn't be more easy to handle. Supported on disk with comprehensive technical manual. Buy with wonder why you bought most ready advertised, more expensive utilities.

FOR £-64 OR £-100 ONLY

BUY IT NOW - £23.95 (inc g.p. and fast delivery)

Overseas orders please add £1.00

MPS SOFTWARE (DEPT CH)
26 ALEXANDRA GROVE
LONDON N4 3LP, ENGLAND
01-800 3883

Previous TOOLKIT versions can upgrade to including disk upgrade disk - £19.95

+ SUPER BREAKER +

+++ EXTRA +++

CONTAINS TWO GREAT UTILITY DISKS - SUPER BREAKER
A SUPER PROGRAMMER PLUS MORE OF 7 UTILITIES

Four great utility disks in a collection of superb software. Super Breaker is a disk breaker that allows you to break down any program into its basic components. Super Programmer is a program that allows you to create programs in a variety of languages.

TOOLKIT IV - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

TOOLKIT IV - This package will transfer a program from one disk to another. This package will transfer a program from one disk to another.

DIRTY, DIRTY COPY FROM IMAGE - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

DIRTY, DIRTY COPY TO IMAGE - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

DIRTY, DIRTY COPY TO DISK - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

DIRTY, DIRTY COPY TO TAPE - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

DIRTY, DIRTY COPY TO TAPE - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

DIRTY, DIRTY COPY TO TAPE - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

DIRTY, DIRTY COPY TO TAPE - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

DIRTY, DIRTY COPY TO TAPE - This will let you manage hardware easy. The "DIRTY" disk contains all the "DIRTY" utilities. The "DIRTY" disk contains all the "DIRTY" utilities.

This lady is deadly.



TROJAN CAD-MASTER

THE ULTIMATE IN GRAPHICS TOOLS

SUPERB GRAPHICS SOFTWARE PLUS
A TOP QUALITY LIGHT PEN

Discover the exciting world of creating your own graphics on screens.

- **FRESHMAN CURSOR** - Open thickness line, Gullie
- **PANIT BRUSH** - for the artistic touch
- **PILL SHAPES** - use 18 colours and 11 patterns
- **GEMMETRIC SHAPES** - circles, boxes, triangles, lines
- **Shading**
- **DYNAMIC RUBBER BANDING** on all geometric options
- **PAI-PANIT FUNCTION** - for pixel accuracy in all functions

Plus many more so numerous to mention in this ad. All these features in the Program + a top quality Light Pen and an instruction booklet in one reasonably priced package. Easy to use for creating colourful pictures or technical drawings. Ideal for use by all ages of many users. Full-back-up service from manufacturer. Available at good dealers in direct from Trojan Products.

ONLY
£19.95
PER PACK



TROJAN

Home Computer Software & Accessories

Write straight to us:

TROJAN PRODUCTS

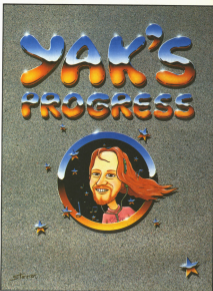
101, Delford, Danvers, Essex S&A 9YF

Telex: 02800000

TRADE ENQUIRIES WELCOME



Homework



YAK'S PROGRESS FOR THE CBM 64

'Let there be sprites ...' a collection of eight of Jeff Minter's hairy classics for the '64:

- ATTACK OF THE MUTANT CAMELS •MATRIX •LASER ZONE •HOVER BOYVER
- REVENGE OF THE MUTANT CAMELS •SHEEP IN SPACE •METAGALACTIC LLAMAS
- BATTLE AT THE EDGE OF TIME •ANCIPITAL

IN PRESENTATION BOX WITH J.M.'S HISTORICAL NOTES! — ON DISK £11.95 ON 2 TAPES £9.45

COLOURSPACE FOR THE BBC 'B'

A great version of this unique software, for BBC owners. COLOURSPACE and its predecessor PSYCHEDELIA have been described as INTERACTIVE FIREWORKS, the player readily producing fantastic lightshows, a wonderful accompaniment to favourite music. We've caught the rainbow...

ON TAPE £7.95

SHARES AVAILABLE FROM ALL GOOD COMPUTER RETAILERS OR FROM LLAMASOFT LTD, 40 MOUNT PLEASANT, TAIN, TYNSDALE, TEL: 01759 4478

S.A.S. FOR CATALOGUE & NEWSLETTER 'THE NATURE OF THE BEAST'



CLASSIFIED

C16 WORD PROCESSOR - TEXT 16

Powerful word processor. Features include: Auto carriage return, smart cursor, deletion, copy, paste, undo, local text variables, tab, word wrap, right justify etc. Fully menu driven for ease of use. Supports notes.
Commodore 16

commodore 16

cost: 27.00

C16 FILE - DATA 16

Takes the place of any word index. Features include: full search, auto amend, delete records, password protection, search file, delete and optional records, print all/pair records, variable field etc.
Commodore 16

commodore 16

cost: 27.00

All programs with full documentation and guarantees and can be used with all screen colour C16 printers (including 1500 printer) please, if required. Price includes VAT, packing and fast delivery by air where post.

Chopcof Software to: **A & C SOFTWARE**
Dept. 1, 75 Oakthorpe Gardens, Tividale
West Midlands B69 2LF 021-582 8294 (T-9 pm)

SUPER BREAKER BACK-UP BOARD FOR THE C64, C65 AND VIC-20

*** THE BEST VALUE FOR MONEY BACK-UP BOARD FOR YOUR COMPUTER ***

When connected to any computer you are connected to the board's information bank up to 1000 of screen based software, including Turbo Pascal, Microsoft Logo and Basic and Disk II files. You can load any file you require in under 10 seconds and software will be available on the hard disk. No additional software is needed. Price just £8.95 plus p.p. Also we have 1 Floppy Disk Backup Board, also low cost. Read more on this.

RESET CARTRIDGE *** FOR THE COMMODORE 16 ***

Simply insert the Reset Cartridge into the cartridge slot of your 16 and you can load all memory resident programs, without the necessity of changing the standard reset cartridge. The Reset Cartridge will work on all computers priced at £7.95 inc. VAT.

Add the 1640, 1650, 1660 and 1.1.0 and other options add £2.00 per Recorded Delivery price UK and Europe with £1.25 extra per Recorded Post (about 50p in most areas), in order to accept 1st class UK.

CLAIM KENT SOFTWARE, 26 NORTH QUAY WALK, DANESHOLME, COVENT, NORTHWARDS CV19 9DD

For enquiries please ring 0243 149252

ASTROLOGY

Wide range of Self-teaching and Accurate Easy-to-use Calculation Programs for the Commodore 64 and PET.

Natal Progressions, Transits Synthesis, Composite, Relationship Harmonics, Midpoints, Solar/Lunar Returns, etc.

For more details please send large size to:

ASTROCALC

87 Passcroft Road, Hermal Hampstead,
Herts HP3 8ER. Tel: 0442 51809

FOR SALE

SOCCER MANAGER - manage your own team. RACE NIGHT - Horse Racing - Party Fun. 14.95 each or both for £7.50. K. Palmer. 88 Old Park Road, Stratford, SS 20L.

EMPIY BRILLIANT C64 Mega 200k program. Save 90% in tape 80% quicker than 1641 disk drive. Tap £7.95. Also £2.95. Send cheque, pay to M Thomson, 18/4, West Wiltshire, Goldenham, Strouding, RH5 2ET.

HITS MAGAZINE for the Commodore 64. Titles such as The Encyclopedia and many more sent free and 50p for those who send to Mark O'Reilly, Elmwood Rd, Loughrea, Co. Galway, Ireland.

COMM 64 games for sale. Ahead £14. 54 titles. 80-141. October £1. All originals. Also Vic20 Starline pack. + 38/766 and games £10. Paul Whalley, 13 Ladbroke Grove, London W10 6DB. Phone 0275 843344. Books contained.

SCRAPPABLE BILLING not obsolete at £1. each, or the 50 for £20. Also a 50k disk for £8, or whole lot for £75. Send B.A. to: N. Murray, 7B Southfield Road, Basing, London SW17 0SR, Denmark.

COM 128 Serial rates, never used £250. Ring Jim on 01-525 9822.

COMM 64 C29 Database MP661 1 screen. Database 1 Joytick plus 2700 words of software, including titles like Day vs. Day, 64220 Commodore, etc. Real value £250. 1988 sell for £200. Please ring 088-52861. All in perfect condition. 0248 50560 50995 Commodore 64/128 software for £120000. 120000, 660, with 6000 shared pages. Two months old, brand, perfect. £1980. cost £2900. Tel: 01802 69920 48629.

COMM 64 C29 Records. Joytick, software books, 2380 Simons Basin £25. Memorandum table, MTRC printer £180. Interface F10. Microcass. £5940.

FOR SALE COMM 64 and twin player with 2700 words of software. Many good games including Bounty Bill, Super Hero and Rocket Ball. worth over 2400 for only £200. Please Contact 081434 for details.

VIC 20 FOR SALE 1981 portable C28 cassette + Joytick, + Light pen, + 2000 software + 38 games + books worth £270. Will accept £100 plus ideal gift for Christmas, just rights for beginners. Tel: 04420 61244 53198 ask for David Clark.

CLONIC DATA DRIVE for COMM 64 or VIC 20, mounted on the 150, also Simon's Basic Cartridge all new £25. Original boxes and manuals. Write both for 1985. David Clapes, 8-Cedar Drive, Tunas, Cuffins.

COMMODORE 16 computer for sale £25. Write to M. Perryway (C16 Computers) 285 Gifford Road, London W12 8JF. Please enclose p.p.s. Also software (available from £150). Joytick. Occasional for bulk, buy! Only a few left!

FOR SALE Chemistry '87 (and) C64-65 Mathematics 1, 2, 3 + Level C64, Physics, C64 + V Level C64, also Screen 95, 13 each, Screen 20 £189. Phone 01-802 7827 any time. 28 Millon Road, London W14.

FOR SALE COMM 64, 65M DPRINTII printer, COM 1641 disk drive, COM 1791 monitor, memory board, 10000, £12000 value. 6 months old. £800 the lot! Might split. 02373 54200.

FOR SALE COM software including Ahead, PMS, 147, Roller Skis, Blipper, Zedex, A.C.S. etc. Very cheap! Write to: Isaac P. Davies, 1076 Station Road, Southport, Merseyside L35 3BB.

COMMODORE 64, Computer, 1641 Disk Drive, 1200 Colour Monitor, cassette disks, 1620 Graphics, Printer, disk games, manuals, 4 cartridges, 4 disks. An Introduction to Basic Part 1, plus 17000 computer disk. Total retail value £2800. Offerer's freight, tel. Oxford 0206 71 029.

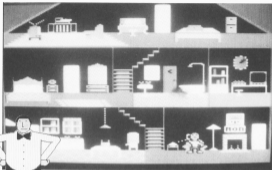
FOR SALE White Lightning, a modified 64, hardly used. Sell for £175. Contact: Kevin, Widdowdale, right only between Top and 6.50pm on 0433 73 2434.

COMM 64, 1641 disk and C28 disk. Dukerich & Skelton, Joystick, Fluid program that software 1920 disk, plus some books, books, plus C28 - magazines. This plus Commodore Fluid with software. Offers over £250. Please ring Jay Jones, Reading 877332.

COMMODORE 64 with 2 Joysticks, 1000 Cassette Unit, Danish Speech Synthesizer, books and C28 word of original games (many 1p 20 titles included). All in excellent condition and boxed. **COMM 64**, 1641 disk, 1641 disk, 1000 Cassette Unit, Danish Speech Synthesizer, books and C28 word of original games (many 1p 20 titles included). All in excellent condition and boxed. **COMMODORE 64** with 2 Joysticks, 1000 Cassette Unit, Danish Speech Synthesizer, books and C28 word of original games (many 1p 20 titles included). All in excellent condition and boxed. **COMMODORE 64** with 2 Joysticks, 1000 Cassette Unit, Danish Speech Synthesizer, books and C28 word of original games (many 1p 20 titles included). All in excellent condition and boxed.

FOR SALE COM software pack with 17000 + accessories including Joytick, manuals and software including 8880 Basics, Beta 3, Ahead, Formula 1 Simulator, etc. All for £100 price. Phone: Don 02443 54294.

YOUR CHANCE TO WIN



AN ACTIVISION LITTLE COMPUTER PERSON

Twenty copies of the Little Computer People Research pack, on disk or cassette, are up for grabs in our easy-to-enter contest. You could have an LCP living in your 64 if you win!

ACTIVISION'S (wonder) research team has finally come up with an explanation for those computer bugs and glitches. Yes, there are Little Computer People living inside your 64!

Now you can win a research pack which will help you to find out more about these fascinating creatures.

Programmer David Crane, (Pitfall, Ghostbusters), and musician and artist Rich Gold, headed the team which developed the Little Computer People package. Realizing that the best way to lure out the computer devils would be to build them a friendly environment in which to live, the team designed a 24-hour house inside the computer.

Lead up the Little Computer People program and you'll see the houses appearing on your screen. Then it's just a matter of time before you hear a ring on the doorbell, and a Little Computer Person arrives in.

You'll be able to watch your Little Computer Person as he stoves around the house, making phone calls, taking a shower, playing the piano, watching the TV, and feeding his

dog. But, even better, you can communicate with your LCP, ask him to type you a letter, learn programs at his front door, play poker with him, try to work out what he says on the phone, or just share your innermost secrets with him! Every LCP has a different personality; have hours of fun finding out how your spends his time in your computer.





We're giving away TWENTY copies of Activision's Little Computer People Discovery Kit. All you have to do is tell us WHO you would like to have living in your computer and WHY. Put your entry on a POSTCARD, or the back of a sealed envelope, with your name and address, and tell us whether you would like cassettes or disk software. Then post your entry to LCP Contest, Commodore Scotland, 22-23 Little


Newport Street, London WC2N 5PP, to arrive by the last working day of January. The twenty most original, amusing and appropriate entries will win the prizes.

Results will be announced in the March issue. All normal competition rules apply.



THE 

Young 

ONES 

**SPECTRUM
AMSTRAD
MSX
COMMODORE**

£7.95

lv fish

Orpheus Ltd., The Smiddy, Unit 1, Church Farm,
Hobby St. George, Nr. Sandy, Beds. SG19 3HP
Tel. GERRINGEY (0767) 31481/91 Telex 817117 ETHGDN G

 **ORPHEUS**
NEVER-LOOK-BACK...

Please send me
_____ copies of THE YOUNG ONES at £7.95
P&P FREE (UK only) £2.00 P&P overseas.

Name _____

Address _____

Please make cheques or money orders payable to Orpheus Ltd. I
will send together with your order form to:
Orpheus Ltd., The Smiddy, Unit 1, Church Farm,
Hobby St. George, Nr. Sandy, Beds. SG19 3HP.



WIN ★ WIN ★ WIN

ROBCOM

Turbo 50

Ten fantastic utility cartridges from Robcom are up for grabs — just find the hidden words in the phrase **ROBCOM TURBO CARTRIDGE!**

LAST MONTH we reviewed one of the most impressive Commodore 64 add-ons to appear this year — the Robcom Turbo Cartridge range.

These programming utility cartridges are a must for any serious 64 owner. The top of the range unit, the Turbo 50, costs £26.95 and offers a staggering range of utilities such as:

• BASIC TOOLKIT:

Including AUTO line numbering, DELETE line, FIND string, HELP to display programming errors, PAUSE!, SET screen and border colours, DEC/HEX convert, and many more.

• PROGRAMMED FUNCTION KEYS:

To give single-key loading, file backup, list, run and so on.

• RESET SWITCH:

To reset programs without clearing Basic or machine code routines from memory.

• FAST LOAD/SAVE:

Special routines to make tape or disk operations ten times faster than normal!

• DOS COMMANDS:

File merge, append, formatting, searching, renaming, setting device numbers.

• PRINTER UTILITIES:

Allowing Centronics printers to be used with a suitable cable, including a LEIP mode to translate characters line-wrap-to-wrap codes, column width setting, or full Commodore graphics set printing.

• MACHINE CODE MONITOR:

Full-use M/C monitor with over thirty commands, using only 4K of memory.

• HEAD ALIGNMENT ROUTINE:

Using a special cassette included in the package to set up your diskette perfectly.



There are five cartridges in the Turbo series, offering a combination of these facilities. All of them are totally system-transparent; they take up memory, and can be left plugged in all the time. There's a SHOW function which gives a full on-screen list of the new facilities available, and the Turbo Cartridges come complete with a full manual.

Now we're offering you the opportunity to win one of TEN of these fabulous Robcom Turbo 50 cartridges, which will transform your 64 into a powerful and user-friendly computer.

All you have to do to win is to make up as many words as you can from the letters in the phrase **ROBCOM TURBO CARTRIDGE!**

Each letter in the phrase may only be used once. Proper names, phrases, foreign words

and slang are excluded.

When you have compiled your list, write it all down and complete this do-breaker sentence in an apt, original and amusing manner to fit the words or fewer: "Robcom's Turbo cartridges give your 64 a boost because..."

Add your name and address and put the number of words you have found on the top left corner of the envelope. **ANY ENTRIES NOT BEARING THE NUMBER OF WORDS FOUND ON THE TOP LEFT CORNER OF THE ENVELOPE WILL BE DISQUALIFIED.**

Post your entry to Turbo Contest, Commodore Network, 12/13 Little Newport Street, London WC2M 3PP, to arrive by the last working day of January. Results will be published in the March issue. All normal competition rules apply. ■

COMMODORE 64

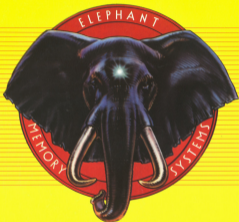


"DRAGONSKULLS", "OUTLAWS", "BLACKWYCHE", "IPHOTEQ" recommended retail price
£9.95 inc VAT. Available from WILSMITHS, BOOTS, J.MENZIES, WOOLWORTHS
and all good software retail outlets. Also available from
ULTIMATE PLAY THE GAME, The Green, Ashby-de-la-Zouch, Leicestershire LE6 5JU
(P&P are included) Tel: 0530 411405

ULTIMATE
PLAY THE GAME



COMMODORES LOVE ELEPHANTS



ELEPHANT MEMORY SYSTEMS get the best from your Commodore. **ELEPHANT** printer ribbons, head cleaning kits and computer cleaning kits are now added to the **ELEPHANT** family to provide you with a total computer supplies package. Together with **ELEPHANT MEMORY SYSTEMS** disks — certified 100% error free and problem free and guaranteed to meet or exceed every industry standard — **ELEPHANT** is now more than ever the brand to trust.

Dannison

ELEPHANT NEVER FORGETS

Dannison Manufacturing Co. Ltd.

Greenway Way, Wotton, Oxon MK40 4PT, Eng. Wotton 0800 11384, Telex 86200

Product literature: 60 pence (UK) 80 pence (overseas)

The following is distributed: 800 000 00 Administration and Product Literature: Telex 86200 000 000 1

Marketing Material: Computerworld (USA) Publications: 800 000 000 00 Telex 86200 000 000 00

Other: 800 000 000 00 Telex 86200 000 000 00 Telex 86200 000 000 00 Telex 86200 000 000 00

Other: 800 000 000 00 Telex 86200 000 000 00 Telex 86200 000 000 00 Telex 86200 000 000 00